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All About The Baby

by
Robt. N. Tooker

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ALL ABOUT THE BABY

AND

PREPARATIONS FOR ITS ADVENT

TOGETHER WITH THE

HOMEOPATHIC TREATMENT

OF

ITS ORDINARY AILMENTS.

A Book for Mothers.

BY

ROBERT N. TOOKER, M. D.

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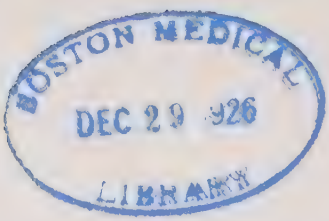

DEDICATION:

TO

EVERY MOTHER WHO LOVES HER BABE, AND

WHO BELIEVES AS I DO, THAT

"THE HAND THAT ROCKS THE CRADLE MOVES THE WORLD,"

THIS BOOK

IS RESPECTFULLY AND AFFECTIONATELY DEDICATED

BY THE AUTHOR.

PREFACE.

The trend of modern medicine is toward prevention as well as the cure of disease.

The utility of this fact is nowhere so plainly manifested as in those affections which constantly menace the lives of children. Infantile diseases, which seem trifling in their incipiency, are prone to take on a serious aspect, if long neglected, and often they must receive tardy attention, if the trusted family doctor happens to be miles away at the critical moment.

Every mother should have resources of her own upon which she can depend in cases of emergency. Many a serious disease might be averted by timely treatment; and there are many small ailments attendant upon early life which, at their worst, are more annoying than serious.

An intelligent recognition of these minor maladies and a prompt use of simple remedies can but conduce to the happiness of the babe as well as that of the entire household.

An experience of over thirty years in the capacity of family physician has convinced me that, notwithstanding the numerous domestic works on medicine with which nearly every well-regulated household is supplied, there is still room for a book on "All About the Baby." There is a notable, but not surprising, ignorance everywhere manifested upon questions of vital importance to the young babe—questions which are apt to be forgotten when the doctor makes his professional call.

Again, a young wife who finds herself *enceinte* is possessed with all sorts of queries concerning her condition and prospects, and is often without a friend whom she can make a confidante, and be certain of receiving sound advice. From the beginning to the end of pregnancy, and from thence on indefinitely, a conscientious mother is beset with living questions, which seem to hover about the home, and especially about the nursery, as if a large-sized interrogation point, instead of the traditional horseshoe, hung over the front door.

The object of the present volume is to answer at least some of these ever-recurring questions, and to answer them in as plain and simple a manner as possible.

The endeavor has been to make each page and paragraph of practical value.

The few illustrations which embellish the work have been introduced because of their practical worth in making plain the text rather than to swell the bulk of the volume.

The colored lithographs, showing the typical characteristics of scarlatina, measles, and rotheln, have been reproduced for this work by kind permission of William Wood & Co. of New York. They are undoubtedly the most lifelike illustrations of these diseases ever produced.

The author is well aware of the fact that there are already in this field of usefulness a considerable number of monographs, many of which are of decided merit, written by men prominent in the profession, and amply capable of satisfying all legitimate needs. Nearly all of these works, however, have been written from the allopathic standpoint, and fail to give the reader any information on the milder, safer, and, to the present author's mind, the more scientific method of treating children's diseases.

The sensitive organism of the child requires the most delicate touches of pharmacy.

However men and women regard heroic medication for themselves, it is almost universally conceded that Homeopathy is the safest and best for infants and children.

Full, but brief and plain, instructions are given for the procuring and administration of Homeopathic drugs; and several pages are devoted to the symptomatology of twenty-four leading remedies.

It is not intended nor expected that this brochure will in any sense supplant the family physician, nor delay his coming when needed. The greater intelligence possessed by the mother, the more satisfactory will be his efforts, and the more will his superior skill be appreciated.

In the ardent hope and firm belief that the volume will reach its desired end and be a blessing to anxious mothers, it is respectfully submitted by

THE AUTHOR.

"AND SAY TO MOTHERS WHAT A
HOLY CHARGE
IS THEIRS—WITH WHAT A KINGLY
POWER THEIR LOVE
MIGHT RULE THE FOUNTAINS OF THE
NEW-BORN MIND."

MRS. SIGOURNEY.

PART I.

INTRODUCTORY.

A babe in the house is a well-spring of pleasure.

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INTRODUCTORY CHAPTER.

As a young wife and prospective mother there are many questions which I wish to ask some one who is wiser and more experienced than myself; and if you will kindly listen to my queries and patiently answer them, I shall feel greatly obliged to you. First of all I wish to know how I am to tell about when I may expect a realization of my hopes in the birth of my babe?

The period of gestation lasts, on an average, two hundred and eighty days, or ten days over nine calendar months. You should estimate your time from the *cessation* of your last menstrual period. Another way of counting the time is to count backward three months from the date of the *beginning* of the last menstruation, and then add seven days.

But is this time absolute and invariable?

No, not quite absolute. It sometimes happens that there is a variation of from one to several days either way. Women, as a rule, are more apt to go over than fall short in their time. No physician can be positive or exact to the day, or hour, because experience teaches that there is often a divergence from the established rule, and some mothers go over, while some fall short of, the normal time. While the average period is as stated, viz., two hundred and eighty days, cases have been recorded where the period was shortened to two hundred and forty, and in one recorded instance the term from conception to delivery was three hundred and twenty. Such cases, however, are very exceptional.

At what period of pregnancy does the form begin to change, and the abdomen show perceptible enlargement?

At first the gravid womb sinks down into the pelvic cavity, and during the first two months it sinks lower and lower, so that the abdomen seems rather more flat than usual.

By the third month the womb has grown so large that the pelvis can not well hold it, and it begins to rise and make room for itself above the pelvic brim. From this time onward the figure changes gradually until it reaches its maximum about the eighth month.

What is quickening, and when is it first experienced?

Quickening is the first recognizable movement of the fetus *in utero*, and is usually felt about four and one-half months after conception, or at *mid-term*. After motion is first felt it should continue to be noticed, if all goes well, to the completion of gestation. This "feeling life," or quickening, however, is, like all other symptoms of pregnancy, liable to many modifications as well as some vagaries. In some it amounts to no more than a merely tremulous feeling within the abdomen, and nervous women sometimes imagine they feel it long before they actually do. In some cases the motion of the fetus is lost for weeks together, without any known cause and without there being any ground for alarm.

Is it possible for the mother or her physician to anticipate or foretell a twin pregnancy?

It is not. Undue enlargement of the abdomen may be due to an excess of "waters," and the heart-beats of the fetus are only to be detected by a practiced ear, and sometimes not even then.

Is there any way of ascertaining the sex of the child or of influencing it before birth?

None whatever. Many theories have been advanced for influencing the sex or predetermining it, but none of them has ever had a scientific or reliable basis.

Can a woman, by any volition of her own, influence the character, temperament, or bent of her child before its birth?

It is very doubtful if this be possible. She may unconsciously, and without volition, determine something of her child's future and may transmit to it her own individual traits of character. So, also, the father may unconsciously stamp his offspring with some or many of his individual peculiarities. But it is extremely doubtful if a mother can, by any act of mind or will, give any desired trait or bent to the mental or physical character of her unborn babe.

If a mother is nervous, will her baby be correspondingly so?

Not necessarily nor invariably so; but a woman who is pregnant should not allow herself to become nervous if she can help it. Nervousness is always exhausting, and she requires all of her strength and vitality to properly develop her child while it is *in utero*. If she is fretful and irritable, and fritters her strength away in repinings and querulousness, she need not be surprised if her babe, when born, is puny and nervous. It does not follow from this that her nervousness has been *directly* transmitted to her child, for I do not believe that this is the case.

Then you do not believe in prenatal influences?

Do not misunderstand me. I believe most thoroughly in heredity, and the transmission of family and individual characteristics.

Some one has said that "it takes four generations to

make a boy without freckles," which is only another way of saying that "blood tells."

Racial peculiarities are generally well marked, as note those of the Chinese, the Japanese, the Jews, and other races. But these instances only illustrate the fact that many generations are necessary to produce fixed individualities. Even then there are always possible deviations from the type, so that no rule can be laid down that has not its exceptions.

But, doctor, I have heard and read of many instances wherein children have been marked by the mother in various ways, by dwelling upon certain things or seeing certain sights during her pregnancy that seemed certainly to impress their image on her offspring.

That is true, no doubt, but all such stories are to be taken with some "*grains of salt.*" Many instances which are cited as proof of prenatal influences, when sifted to the bottom, prove to be mere coincidences, while many others are purely imaginary. Still, I should say, if a mother gathers any comfort to herself from a belief that she can influence her unborn babe for good by fixing her mind upon lofty ideals and beautiful and pleasing thoughts, by all means let her views and hopes remain unshaken.

Surely no one but a true wife and mother would have such aspirations and entertain such ambitions; and such a nature may well be buoyed up and encouraged by congenial friends, and by the happiest associations of a happy home. Let her gratify her love for the beautiful, for good books and music, and masterpieces of art. This will at least tend to relieve the tediousness of her waiting, and divert her mind from many harassing ailments and discomforts which are inseparable from pregnancy. It will tend to uplift her

own nature, and prepare her mind and body as well, for the final ordeal which awaits her. Books, pictures, works of art, pleasant and agreeable society — any and everything which will conduce to a calm, cheerful, and happy frame of mind will be quite proper. At the same time the prospective mother should shun the society of gossipy and indiscreet friends, who would fill her mind with all sorts of nonsensical fads, and lead her to believe that every whim, however absurd, must be gratified, or injury to the child will result; or, on the other hand, that she must live the life of a recluse and abstain from all social pleasure, or equal harm will result.

Is it necessary or best to consult the family physician before his services are actually needed?

It is always best to do so, for many reasons. There are many details of pregnancy which may seem trivial to the novice, but which in a given case may be of the gravest import. The advice of a wise and discreet physician should be early sought and his services engaged. He may greatly aid you in avoiding dangers incidental to your condition, and be of much help in preparing you for a full realization of your fond hopes. If the physician should decide that an examination is necessary to determine the size of the pelvis and the position of the child, by all means let him make it, as by this means he may be able to save you much unnecessary pain and even danger. While the position of the child *in utero* is, in the vast majority of cases, natural and best for delivery, there is occasionally a false presentation, or, as it is termed, a *mal-position*. This can only be determined and rectified by a careful examination of the bony parts which make up the pelvis, and no feeling of prudery should interfere with its performance.

The urine should be submitted to him for examination at least each month after the sixth, and oftener, if he thinks best, in order that he may see if there is any disease of the kidneys present. This precaution should never be neglected, because many kidney diseases are insidious in their onset, and are only remediable in their early stages.

What have you to say regarding the choice of a monthly nurse?

As a rule, this matter is best left with the physician who is to have charge of the confinement. The nurse should be engaged some weeks before she is expected to be needed, and if a graduate of some good training-school, she will be all the more serviceable. If not a graduate, she should be a woman in middle life and with experience and references. Professional midwives are, as a rule, to be avoided, for, while they may conduct a normal case without accident, few of them know anything about the simplest complications. Whether the nurse selected be professional or otherwise, trained or untrained, she should be subservient to the physician, and her advice should never be listened to when contrary to his. The attending physician, even though young and inexperienced, is presumably thoroughly educated, and on his shoulders should all the responsibility rest. The nurse is there as his assistant, and it is her duty to follow his directions implicitly and to the letter.

I want to ask you another question, doctor, and that is about diet during pregnancy. May I eat whatever I wish, or must I restrict myself to certain articles?

The pregnant woman may give herself a wide liberty in the choice of her diet, but it should not be too stimulating nor exciting. Highly spiced and rich dishes, fried

foods, and wines are not altogether best; and sweets and bonbons should be taken with great moderation, or not at all. Tea and coffee may be taken if desired, but should not be indulged in as substitutes for more wholesome foods. In a word, the diet should be plain, palatable, and with suitable variety. The young mother may and should eat more and with more frequency than other women.

Your answer suggests another question. I have read somewhere that if a pregnant woman would restrict herself to a diet of fruit and vegetables, it would insure a painless labor. Is this correct?

It is not at all certain that the object you seek to attain can be accomplished by any system of diet which you might adopt; but, even if it were successful, just think, for a moment, what the effect must be upon the baby, of starving its bony structure during the period of its intra-uterine existence. It can not help but retard or prevent its proper development. The human infant is an animal, not a vegetable, and it requires animal food as well as vegetable to properly nourish all of its growing parts — the bony framework not less than the muscular and nervous tissues. The baby's body is nourished, prior to birth, through the blood of the mother, and unless this blood is rich in albumen, phosphates, and all the other physiological elements which enter into the animal organism, the result will be a puny weakling, which, if it lives at all, will be months, or perhaps years, in regaining what it was deprived of during its prenatal life. This question has been so admirably answered by Dr. Aimée Schroeder that I quote her exact words: "Certain writers have advocated the exclusive use of fruit or of vegetables in order to secure painless labor for the mother. Even

were the result insured by such a course, which we have no warrant for believing, no true-hearted woman would wish to secure relief from pain at the expense of her child's health. That this would be the case is evident, since the whole aim of the treatment is to lessen the development of the infant and make its bones soft and pliable — in other words, to underfeed it and to give it a predisposition to rickets."

But how do you account for the fact that many women have painless labors after following out this course of diet, and who have had painful and protracted labors previously?

The first labor is nearly always the most painful and protracted. As a rule, subsequent labors are comparatively brief and easy, no matter what the diet has been. Many women who have paid no attention to any routine diet have quick and easy labors; to attribute this exemption from severe and protracted pain to indulgence in or abstinence from certain articles of food is very illogical.

Should the daily bath be taken by a pregnant woman regardless of her condition?

It is all the more essential that she should observe the strictest rules of cleanliness, because in no other way can she so surely preserve or secure good health. The pores of the skin are easily clogged, which will conduce to pimples, biliousness, and overtaxed kidneys. The latter organs are especially liable to become congested or irritated during the latter months of pregnancy from the mechanical pressure of the enlarged womb, and when this is the case the skin affords relief by ridding the blood of poisonous matters, which, if retained in the system, might cause severe illness. The external genitals may be bathed as often as desired, and a full or sponge bath should be taken daily. Turk-

ish or Russian baths are too violent in their reactions, and are therefore to be avoided; and sea-baths are also too stimulating and require too rigorous exercise to be safe; but full baths, sponge baths, and sitz baths are both safe and wholesome.

Topical baths, i. e., douches and enemas, may also be taken as required, but they should be neither so cold nor so hot as to produce a shock to the delicate and hypersensitive mucous membrane. When enemas are used, care should be taken that the water is not projected internally with too much force against the neck of the womb, as it might be dangerous to do so.

I feel sleepy all the time, and wonder if I should yield to the feeling or struggle against it?

Your condition, madam, requires plenty of sleep. Repose of both mind and body are prime requisites for your own health and that of your infant. Frequent naps during the day will do you good, and your night's rest should be long and undisturbed. You should lie down and invite sleep frequently during the day. Even if you do not sleep, the muscles will relax, and you will feel relieved from that tired and exhausted feeling which is so annoying, especially during the later months of pregnancy.

This advice should not, however, interfere with a due amount of exercise in the open air. Exercise promotes the proper circulation of the blood and insures its distribution to all parts of the organism. It prevents congestion and gives tone to the muscles and nerves. It favors sleep and assists the peristaltic action of the bowels. I can not emphasize too much the importance of exercise during the entire nine months of pregnancy. Just as more food is necessary to properly nourish the two organisms than would be required if only one were

considered, so there is a double demand for oxygen to properly oxidize the new-formed blood and make it fit for the upbuilding of the fetal body.

I have already spoken of the importance of the daily bath, that the mother's skin may be kept in an active and healthy state; and bathing and exercise go hand in hand to promote a perfect state of health for both mother and babe.

What exercise do you think best for one in my condition?

I am glad you asked this question, for ruthless and reckless exercise would be very dangerous. The pregnant woman should not indulge in any exercise that is fatiguing or exhausting. She should avoid horseback riding, running, jumping, dancing, and indeed all violent exercise of a jerky or spasmodic nature. Lifting heavy weights which bring a strain on the abdominal muscles is particularly dangerous.

Reaching up with the arms, as in raising a window sash or hanging pictures, should be avoided.

Drives on smooth roads, with a careful driver and an honest horse, are quite permissible.

Riding in street cars is especially beneficial, as the track is level and free from jolts.

Quiet walks, however, when the weather permits, are better than riding, and if the walk can be made agreeable by pleasant company or by visiting a park or a greenery, so much the better. The jostling of a crowd is to be avoided, and so is the participation in any exciting or violent games or sports.

What have you to suggest regarding clothing?

This is a very important matter, since it involves not alone the comfort of the mother but also the welfare of the child. The pregnant woman should dress with

special reference to comfort, which means that her garments should all be loose. She should discard corsets from the beginning of her pregnancy, and garters also. Special waists are made for women who are *enceinte*, and can be obtained of any corset maker or at any dry goods store. To these waists the underclothing may be fastened by buttons or otherwise, so that their weight may be borne by the shoulders instead of the hips and abdomen. A lady patient tells me that a very comfortable waist may be improvised out of an old corset by removing the steels and sewing on buttons near the lower edge, to which the underclothing may be attached. If desired or made necessary by the fullness of the breasts, the corset may be cut down all around or simply in front. In this way the figure is preserved, and the feeling of support is maintained without undue pressure anywhere. Neither the demands of fashion nor a feeling of false pride should deter a woman from dressing in a way which will make her most comfortable and best subserve her own and her infant's welfare.

As to the kind and quality of her clothing what have you to say?

These matters are best left to the taste and the wealth of each individual. If woolen garments irritate the skin, a light gauze undergarment may be worn next the body, but merino is softest and best in our Northern climate, where sudden and severe changes are so common.

What is the meaning of the word "enceinte," and why is it so generally used to describe a woman who is pregnant?

The origin of the word conveys such a suggestive lesson that I am glad you asked the question.

It was a custom among the Roman ladies to wear a

light but tight girdle about their waists, which was called a *cincture;* but on the occurrence of pregnancy this restraint was removed. A woman so circumstanced was therefore said to be *incincta*, or unbound. The term *enceinte* is derived from this, and has come to be universally adopted to indicate the pregnant condition.

The sense of relief from stays which every pregnant woman feels when she divests herself from all compression caused by fashionable evening attire, should teach the prospective mother the necessity of foregoing social pleasures which necessitate a confinement of the body, for it is not only most uncomfortable for herself, but is liable to cause serious injury to her child. During gestation the uterus increases, on the average, from two to fourteen inches in diameter. It must be obvious how vain as well as criminal must be any effort to contract it, and thus to conceal its enlargement. "Palpitation of the heart, indigestion, disease of the liver, and costiveness; difficulty of breathing, spitting of blood, and persistent coughs; enlarged veins in the legs, swellings in the lower limbs, disorders of the womb, deformity of the offspring, and numerous other affections have their origin in tight lacing; and, finally, if the child be born alive and molded aright, and the mother escape her self-created perils, it may be questioned if compressed breasts and nipples can afford the requisite nutriment when the time comes for her to do so.

"The dress should be arranged, both as to material and quantity, with a view to comfort and to the season. There must be no pressure on any part; even the garters should be loosely worn, or discarded altogether. The feet and abdomen should be kept warm, since habitual coldness of these parts predisposes to colic, headache, and miscarriage."

What are the first signs of a threatened miscarriage?

Any show of blood coming from the uterus during pregnancy is to be looked upon with suspicion. Pain of any kind which is referable to the pelvic organs is also of bad omen. During normal pregnancy there is neither one nor the other.

The pain which precedes miscarriage, and which is more or less ominous of it, may be in the back or in the abdomen, but is usually paroxysmal, that is, recurring at more or less regular intervals. The hemorrhage which accompanies the pain is little or much, according to the development of the fetus. The earlier an abortion occurs the more ill-defined are the symptoms, but pain and hemorrhage, combined in greater or less degree, are always present.

Does a miscarriage come suddenly, or are there premonitory symptoms?

Sometimes the miscarriage is sudden and without warning, but, as a rule, symptoms, more or less marked, precede it. These symptoms are, in addition to those mentioned above, a feeling of lassitude, chilliness, frequent desire to pass water, a white or colored discharge from the vagina, a sensation of weight and fullness in the abdomen. If these symptoms are not promptly arrested, the flow of blood becomes more profuse and recurs each time the patient rises from the bed or makes any exertion. Sometimes these symptoms — most or all of them — persist for weeks before the fetus is finally discharged. In some cases the flow is suspended for days, or even weeks, before the final catastrophe, and then is generally very profuse.

At what period of pregnancy are miscarriages most common?

They may occur at any time, but are most to be feared at the third and seventh months. They are more likely to happen at the time when, ordinarily, the menstrual flow would occur than in the middle of the month. If a woman has once had a miscarriage she should, if again pregnant, be very careful at each recurrence of her monthly epoch, and especially so about the third month.

What are the causes of miscarriage which I may avoid with care?

The causes are very various. With some women it is only by the greatest carefulness that a miscarriage can be obviated. Any preceding disease of the uterus, such as inflammation, ulceration, tumors, displacements, may give rise to it. Constipation may be an active cause, by the violent straining accompanying the efforts at stool. Falls, however slight; violent emotions, fright, shock, blows on the abdomen, over-exertion, excessive fatigue, active purgatives, lifting heavy weights or stretching the arms over the head in adjusting curtains or fixtures, prolonged use of the sewing machine — any one of these causes may precipitate a miscarriage in one who has a tendency in that direction.

Women differ so widely in their aptitudes or tenacity that no general rule can be formulated, but from what has been said, the general idea can scarcely fail to be gathered.

In case a miscarriage is threatened, what is the first thing to do?

Lie down on the back. If at home, remove the clothing and go to bed. If the hemorrhage is profuse, have the hips raised and lower the head. Summon your physician and remain as just directed until he arrives.

If only slight pains are felt, with or without a slight

show, follow the same instructions and keep very quiet for a few days, only rising from the bed when compelled to do so by the calls of nature. If no physician is available, take from your medicine case some Ipecac or China. If these are not at hand, send to the nearest druggist and get some Viburnum Compound (Hayden's) and take a teaspoonful every two hours. If there is much pain, take an eighth of a grain of morphine, or, still better, fifteen drops of McMunn's Elixir of Opium. Any preparation of opium will answer, in half ordinary doses, but the above are best. Do not apply hot cloths or hot bottles, but remain quiet until the doctor comes, or until the danger is over.

Is it ever possible to stop a miscarriage if it is once threatened?

Why, certainly! Multitudes of women have become happy mothers after repeated threatenings and even profuse hemorrhages. You should never despair of arresting the misfortune until you have exhausted every means to do so. Of all the measures spoken of, or known to science, REST is the most valuable and efficient.

Is there any special care of the breasts that I need to know about?

It is quite important to know that certain changes take place in the breasts, and that there are certain deformities of the nipple, which, while usually trifling in themselves, may make it very annoying when it comes to begin the important function of nursing.

As pregnancy advances, the breasts become more prominent, firmer, and larger, and a deposit of coloring matter (pigment) takes place in the zone or ring about the nipples. This darkening of the "areola," as it is called, is most marked in brunettes. Small projecting bodies like pimples are to be observed in this colored

ring, which are small auxiliary glands. The changes just mentioned occur only during the first pregnancy, as they are permanent. It sometimes happens that the nipple is undeveloped, or so retracted that it does not project beyond the level of the skin around it. In such cases the nipple must be drawn out, either by the thumb and finger, or by other means to be mentioned. A Goodyear breast-pump is a very efficient means of drawing it out, and another method which is often resorted to is to use a common clay pipe with the edge of the bowl smoothed off and suction made on the stem by an attendant. By attaching a rubber tube to the stem of the pipe, the person herself may perform this office. The suction should be continued for several minutes at a time. The breasts, especially the nipples, should be bathed every day, because quite early in pregnancy some milk is secreted and is apt to ooze out of the nipples and incrust them, blocking up the milk ducts and causing an irritation in them. This should be carefully washed off daily, and the nipples manipulated delicately with the fingers. They should afterwards be anointed with white vaseline, cocoa butter, or cold cream.

The attempt to harden the nipples with wine or alcohol is not to be recommended.

In case of fissures or cracks in the nipples, the attention of a physician should be called to it; but if a doctor is not to be had, the nipples may be painted over daily (after washing and drying) with Compound Tincture of Benzoin.

Dr. Aimée Schroeder, from whom we have quoted before, says: "Oil gently rubbed on the whole breast every evening will do much to relieve the feeling of tightness and discomfort which comes from its swollen condition."

But you would not advise a continuance of bathing the breasts after nursing is begun, would you? I have heard that this is dangerous.

The idea that bathing the breasts under these circumstances is dangerous is utter folly—a stupid notion born of some old woman who was slovenly in her personal habits, and excused herself on grounds of danger. There is never any danger in being clean. Every time the child nurses, the mother should bathe her breasts immediately after with lukewarm water, and occasionally with castile soap and water. If this is not done there is danger to the child from infection, for it is a well-established fact that uncleanliness invites the formation of myriads of living parasites (bacteria), which render the milk unwholesome.

What diseases, if any, is a woman liable to contract in the course of her pregnancy?

None that she is not as much or more liable to in a non-pregnant condition. True, women do sometimes fall ill while *enceinte*, and with serious results; but in such cases a physician should be called at once, and his advice followed implicitly. It may be said, however, that nature is especially kind to the woman with child, and most women are especially well at this time.

By attention to the hints herein given as to bathing, diet, exercise, etc., the young wife should look forward, with calm and proud expectancy, to the hour when she shall occupy that most exalted state which a woman only can occupy—a mother of a healthy and happy babe.

DENTISTRY DURING PREGNANCY.

I have often heard that a pregnant woman should not have any dentistry done while in this condition, as it is dangerous to do so. Is this true?

I am well aware that there is a widespread belief to this effect, but I do not think such belief is well founded. In all my practice I have never known any ill effects from either the filling or extraction of teeth in women who were either in the early months or well advanced in pregnancy.

It is true that the pregnant woman should avoid everything calculated to rasp or irritate her nervous system, and in a general way I would say that *unnecessary* dentistry should be postponed until the puerperal period is passed. But an aching tooth should be treated at once. If filling a cavity will save a tooth, let it be done. If extraction of a tooth is deemed necessary, no fear need be had that it will change the prospects of a safe delivery. Lest this opinion, which is based upon an extensive observation, might be wrong or partly wrong, I have asked the question of several of the most prominent and experienced dentists of this city, and they are all in accord with the opinion which I have just expressed.

Why do some women suffer from "varicose veins" when pregnant?

Varicose veins are not common during first pregnancies, but are not at all uncommon in subsequent ones. They are caused by the pressure of the enlarged womb on the blood vessels, which obstructs the flow of blood in the veins, and causes them to become distended and painful.

Is there any remedy for this trouble?

As the cause is purely mechanical, the treatment must also be mechanical. The greatest relief will be found in wearing the elastic stocking, which can be had of any size or length, of any medical-instrument maker, or can be ordered by any physician or druggist after giv-

ing him proper measurements. After the baby is born, the veins generally regain their elasticity and normal size. In some cases this trouble arises from wearing corsets or some other article of clothing which obstructs the circulation. In such instances the remedy is too obvious to mention.

CHAPTER II.

PREPARATORY.

I trust you will pardon my ignorance about all matters pertaining to a baby's welfare, for I am so situated that I have no intimate friends with children; and as you have volunteered to assist me, I want to ask you not only about my own and my baby's health and comfort, but also about the preparation for the advent of the little stranger; and first please tell me about the baby's wardrobe. What articles of dress must I provide, and how many of each kind?

I have asked one of my lady friends, who is well up in this matter, to answer this question for me, knowing that she can answer it much better than I. I feel assured of the correctness of the list she has outlined, because the lady in question has had several children, with wardrobes which were beyond criticism. She is a sensible, practical mother, who takes a special interest in things domestic. The wardrobe here given is a copy of that provided for a daughter born while this book was being written. I shall give her description of it in her own language:

The most important thing to be remembered, in preparing the baby's clothes, is to have no starchy edges or

rough points of any kind to come in contact with the tender flesh. Never let neck or sleeves of dresses or gowns be starched. Have the pinning blankets either bound with soft flannel binding or turned over and feather-stitched in a hem, with raw edge out. Let the neck and armholes of flannel skirts be scalloped with tiny scallops and soft silk. This is taking for granted that the Gertrude patterns are used.

For number of garments in baby's wardrobe I think that the list should be about as follows:

Six dresses.

Six slips, which are only a little more simple than the dresses, and which the baby is to wear altogether for the first month or six weeks.

Six white petticoats of Gertrude pattern, with two buttons on each shoulder.

Four flannel shirts.

Four day flannel skirts, a little more elaborate and of finer flannel than the four night flannel skirts.

Note.—There should be some cotton in all the flannel used, for obvious reasons.

Six muslin night gowns.

Four flannel wrappers for night wear in cool or cold weather.

Four or six pinning blankets.

At least four dozen cotton diapers. Don't use linen, for the sake of baby's comfort. A diaper twelve inches wide is the smallest that can be used. Twenty-two inches wide is needed after a few weeks.

Note.—A diaper needs to be just twice its width, in length. An eighteen-inch diaper should be thirty-six inches, or a yard, in length, after a narrow hem is taken off — a twenty-two inch, forty-four inches long, and one twenty-seven inches wide, fifty-four inches long. After

the baby is six months of age the largest size diaper (twenty-seven inches) is generally needed.

TWO FLANNEL APRONS, to be used for the baby's bath, are very desirable. They are made of rather cheap flannel, and should be large enough to cover the front of the mother's dress. Tapes at neck and waist are of advantage.

SEVERAL little cheese-cloth comforts are also useful for spreads.

FOUR SOFT FLANNEL BANDS, which are simply straight pieces of flannel, say twenty-two by five inches, UNHEMMED.

In ordering cotton, which you seem to prefer, what sort of cotton do I want?

Be particular to ask for regular *diaper* cotton, which all dry-goods stores keep; but if the clerk does not understand what you wish, ask for "bird's-eye" cotton. Some physicians advise linen diapers in preference to cotton, on the ground that linen is less heating, and is less liable to cause chafing when wet.

But is the preference for linen over cotton a valid one?

I do not think so. The napkin, or diaper, as I prefer to call it, should be soft and pliant, and linen is harsh and cold. As the diapers should be changed as soon as soiled, and never be used again until thoroughly washed, dried, and aired, an abundant supply is necessary; but the cost of material does not influence my judgment in the least in expressing the preference I do. Cotton or Canton flannel is soft and comfortable to the skin, while linen is always harsh and rasping, from its fibrous texture.

But when a baby soils numerous diapers in a day, how is one to keep the supply fresh, as you say it ought to be?

Only by having an ample supply, and by scrupulous cleanliness can the baby be well cared for. Never use a damp diaper, unless you wish to invite rheumatism or some other malady which comes from exposure to cold and dampness. Dampness is not the only danger arising from newly washed diapers. They should be aired, and, when possible, exposed to the sunlight, for fresh air and sunshine are the best deodorizers and disinfectants. It is important, in washing the baby's linen (?), to insist that the laundress use only pure soap rather than soda, for the latter is irritating and liable to produce excoriation of buttocks and neighboring skin.

How about knitted bands, and how are they made?

Instead of the flannel bands, or "binders," some mothers prefer those which are knitted or crocheted. Any woman who is apt with the knitting-needle ought to be able to make one, and this may be said in its favor: It is much more apt to keep its place and is more readily applied. In either case, whichever is preferred, the band should be long enough to go round the body and lap a little, and wide enough to extend from just above the brim of the pelvis to just to, but not above, the armpits. The knitted band needs no pins. There should be, in the baby's stock of clothing, several of these bands, and of different lengths, so as to adapt them to the growth of the infant.*

* *Directions for Crocheted Baby Band:* Single zephyr in ridges stitch, that is, half-stitch, in which, going back and forth, only the back half of the stitches in the lower row are picked up. Begin on a chain of fifty and crochet forty-eight ridges, hence ninety-six rows. Join by a row of tight stitches or by sewing. Finish off at bottom by a row of plain stitches, and at top by a picat-edging (five chains and a tight stitch back into the first). Babyhood, Vol. III, page 33.

How long should these "bands" be worn?

The object of putting them on at all is to avoid rupture, by supporting the abdominal muscles, which are often put upon strong tension when the baby cries, and also to protect the abdomen from chill in cold, damp weather. The snug bands, flannel or knitted, should be worn for the first three months. After this it is a wise precaution to have the baby wear a *loose* flannel band next the body for a year and a half or two years. It is a great safeguard against bowel troubles. The band, if desired, can have tapes over the arms as the baby grows older, so as to be easily held in place.

Do you approve of the rubber diaper for an outside covering?

No, I do not. It confines the dampness, sweats the parts that it covers, and is liable to produce eczema.

Is there anything more which you would suggest as to clothing?

You will not need to use the entire wardrobe daily, of course, and hence there is need of a "basket" which will contain the articles for the toilet and an assortment of clothing for the day's uses. An ideal basket for the baby's first toilet should contain the following: Two soft towels, a cake of white castile or carmel soap, baby powder (talcum or starch), a soft velvet sponge, plenty of large and small safety pins, a spool of bobbin or linen tape, very narrow; a pair of blunt-pointed scissors, a jar of white vaseline, some soft old linen or cambric handkerchiefs for baby's mouth, absorbent cotton for dressing the navel, boracic acid, bottle sweet oil, two diapers, some flannel, like an old soft skirt, to wrap the baby in when first born, a very soft brush for the hair.

For clothing put in the basket: A belly-band, shirt, pinning blanket, flannel skirt, night dress, either

muslin or flannel, according to season; one blanket or comforter.

Fig. 1.

To this list may properly be added, later on, a soft merino shawl or a crocheted sacque, for a wrap in emergencies or in cold weather; also a pair of worsted socks or bootees.

In addition there should be provided a portable bath-tub and a bath thermometer. (See Fig. 1.)

Socks, sacques, and caps are such stereotyped gifts that nearly every mother is amply supplied with them through friends. It may not be amiss, however, to describe the socks, which are quite essential to the baby's complete outfit. They may be made of silk thread, or, still better, of soft worsted yarn, fashioned by needles into the shape of shoes and of such a size as to fit the feet loosely. They should cover the leg two inches or more from the ankle.

You speak of the "Gertrude" pattern; will you be kind enough to tell me what you mean by that?

The Gertrude suit is the happy invention of my friend Dr. L. C. Grosvenor of this city. The description here given is from his own pen:

"The undergarment (see Fig. 4) is made of some warm, soft, fleecy material and reaches from the neck to the wrists, and to eight or ten inches below the feet. The hems and seams are turned up on the outside, so that it is soft and fleecy within.

"Patterns of the Gertrude suit (four in a set for $1.00) can be obtained of the Gross & Delbridge Co., 95 and 97 Wabash Avenue, Chicago.

"The second garment (see Fig. 2) is of the same shape as the other, with the same princess curves, but without sleeves. It is an inch larger than the other one, so as to fit over it comfortably. The armholes are pinked or scalloped, but not bound, so as to be easy and comfortable to the body. This middle garment is made of baby flannel.

Fig. 2.

"The dress (see Fig. 3) is of any material you like, warmer in winter and cooler in summer, but of the same princess shape, only slightly larger, so as to fit comfortably over the others. This may be made simple or as elaborate as you please.

Fig. 3.

"These three garments are put together before dressing—body within body and sleeve within sleeve. After diapering the baby, the suit is put over its head as one garment, the little bare arms going into the sleeves without friction or fretting. Tie and button behind, and the baby is dressed with one pin instead of fifteen. Each garment has a draw-string tie

at the neck to make it fit a baby of any size. These tie strings should be of different colors, so as not to mismatch in tying. The back of each garment is opened downward about five or six inches, and in the middle of the span is one button, so that each garment has a tie and one button only.

Fig. 4.

"The night gown, of some soft and warm material, is made just like the undergarment in the suit (see Fig. 4). This and the diaper is all the baby wears at night."

The advantages of this method of dressing are obvious:

1. Perfect freedom to the organs contained within the chest, stomach, and pelvis.
2. Suspension of the clothing from the shoulders.
3. Saving of time to the mother, and fatigue to the infant, in the process of dressing.
4. A uniform covering of the whole body.

What preparations are necessary for a prospective mother, relative to her confinement, which refer exclusively to herself?

She should have ready a rubber sheet, one yard wide by two yards long; a pad for the bed about a yard square, made of cheap cheese cloth (five cents a yard), boiled first before making up, and filled with absorbent cotton. This is to be destroyed after use. Then an old quilted piece of some kind, or rug, to protect the carpet, and a

couple of soft, old sheets. Three or four of the large pads are most useful. Four or five dozen small pads, made of the same cheap boiled cheese cloth and absorbent cotton, are needed. A fountain syringe, bed pan, light papier-mache bowl, and plenty of night dresses are all necessary for the mother's comfort. There should be plenty of towels and a large new sponge.

In addition to these articles it would be well to provide, also, the following: Chloroform, eight ounces; brandy, four ounces; vinegar, four ounces; absorbent cotton, half-pound package; carbolized gauze, one can; carbolized vaseline, one ounce; large safety pins; fluid extract of ergot (fresh).

Let me ask you again: Would you advise me to procure the services of a trained nurse, or is it better to depend on the old-fashioned kind—the "Old Auntie," who goes out to nurse because she likes it, and who has had children of her own?

I should unqualifiedly and unhesitatingly recommend the trained nurse. No greater blessing has been granted the new mother than that of an educated and refined modern nurse. The old-fashioned nurse was very often, too often, an old granny—full of whims and antiquated traditions; she was born in a rut and could be taught nothing. She was too old to learn and too set in her ways to follow the doctor's instructions, which are often of the greatest importance. Have a trained nurse by all means, if it is possible for you to do so.

Are all women sick at the stomach when pregnant?

No. Many women feel especially well at such a time, and have a good appetite and good digestion throughout.

What is the cause of this morning sickness?

It is a reflex phenomenon, having its origin in the

womb, and is usually most troublesome during the early months of pregnancy, when the womb first begins to undergo those changes necessarily connected with this condition.

Is this terrible nausea usually continuous during the whole nine months?

It is only in extreme and exceptional cases that it continues longer than three or four months.

What is the best treatment for it?

There is no specific remedy for this condition, but much relief may be obtained by various means. When the nausea is excessive, the reclining position should be maintained for much of the time. Something stimulating to the stomach should be taken in the morning before rising. Some cases are relieved by drinking a glass of champagne the first thing in the morning; others do better with a cup of tea or hot chocolate, while others again experience more relief from a glass of cold koumiss. At all times the smell of cooking should be avoided as much as possible, for nothing so quickly turns a delicate stomach as the smell from the kitchen. It is well, in extreme cases, to have all of the meals served in bed, or at least in the private room, where neither the senses of sight or smell will be offended by quantities of food. The taste of the individual should not be consulted in the preparation of each meal, for when the stomach is qualmish, even the thought of food produces a wave of nausea. Let small quantities of favorite and nutritive dishes be prepared and brought to the woman at odd times. If daintily served, the weak stomach will often be surprised into tolerance of edibles in this way.

What diet is best under these circumstances?

It is useless to lay down strict rules for eating when everything is distasteful. Let the food be as concentrated as possible, so that a little may do as much good as possible.

Egg-nog, ice-cream, a bit of rare steak, a delicately cooked lamb chop, a bird, sweet breads, oysters, etc., fill this requirement. One of the best known articles is clam broth, but all kinds of light meat broths and gruels are wholesome and should be drunk out of a cup or small bowl as a sort of mild deception to the eye as to the quantity imbibed.

Are there no medicines which will afford relief to this most distressing condition?

We have often seen much good come from the use of Warner's Effervescent Oxalate of Cereum, and from drinking some of the alkaline waters, such as Vichy or Apollinaris. Among Homeopathic remedies the best are Ipecac, Nux Vomica, Aletris, and Arsenicum.

But when such sickness persists for months, is it not dangerous, imperiling health, if not life?

The system requires but very little aliment when active exercise is not taken; hence the advice to spend much, if not all, of the time in bed in desperate cases. When the vomiting is persistent, so that no food is retained at all, an experienced and skillful physician should be consulted, for possibly a surgical operation may be required, viz., dilatation of the uterine cervical canal. This is generally successful in pernicious cases, but the operation is a very delicate one, and, if not skillfully performed, imperils the life of the fetus.

For the mother's encouragement it may be said that there is a tradition among nurses, which is as well founded as most traditions are, that "*a sick pregnancy is a safe pregnancy.*" While "morning sickness" is

always distressing while it lasts, the young wife need feel no apprehension, for, after a time, the nausea will pass away, the appetite will surely return, and neither mother nor child will have suffered harm in consequence.

Should the monthly nurse be called before labor begins?

Let me advise you, by all means, to have your nurse in the house a few days before your expected confinement. She need not be with you; indeed, it is best she should not be with you all the time, but she should be within call. She can help you to decide whether the pains are true labor pains or those false pains that often are very teasing and worrisome.

But supposing my nurse is not with me, are there not symptoms or indications by which I can tell myself that labor is approaching?

Pain, which is usually of a vague and ill-defined character, is generally the first recognizable symptom, but there are others quite as marked to those who have once experienced them — such as a settling down or lowering of the enlarged abdomen. The bowels are generally loose just before labor begins, and women often experience a feeling of nausea or even faintness.

What are the "false pains" to which you refer?

They occur quite frequently during the two weeks before confinement, coming on at irregular intervals, and lasting a variable time. They are, for the most part, situated in the abdomen, but may be in the back or loins. They differ from true labor pains in being irregular, both as to location and time. True labor pains may be felt either in the back or front; they last from a quarter to a half minute and return with considerable regularity, the intervals growing shorter

and shorter as labor progresses. At first they may be half or three-quarters of an hour apart, but they approach nearer and nearer together, and increase in severity, until they center in the back and become forcing, so that the impulse to seize upon something while the pain lasts is quite uncontrollable. There is often a slight discharge of blood (sometimes called a "show"), which is almost positive proof that labor is about to commence.

What is the "bag of water," and when does it break?

The "bag of water" is a sac containing the fluid in which the child floats while *in utero*. The amount of this fluid varies greatly—from a pint or less to a gallon or more. As a general rule, the larger the quantity within certain limits, the easier the labor. When the quantity is very small the woman is said to have had a "dry labor." When the bag of water ruptures there is a sudden gush of liquid, or a more or less continuous flow. The rupture may take place at the very beginning of labor, or not until labor is well advanced. In either event the physician should be sent for at once, even though there has been but little or no pain. In exceptional cases the rupture takes place some days before the child is born.

Are there other signs of impending labor?

The bowels are generally relaxed at the onset of labor, and there is frequently a sensation of "sinking" at the stomach, which is akin to nausea. If the bowels are confined and labor pains have begun, it will be quite proper to empty them by means of an enema before the physician arrives.

CHAPTER III.

THE NURSERY.

What have you to say, doctor, about the nursery — its location, furnishings, etc.?

If one is about to build a modern home, and is unrestricted as to space, and means to spend, in making the home complete, a competent architect can easily project an ideal nursery, the details of which will depend on location, size of house, and its architectural plan. Whatever the plan of the house in general, the nursery should preferably be on the second, or living, floor of the home. It should consist of two connecting rooms, one of which should be used as a day nursery, and the other for night use. One or both should be in close proximity to the sleeping room of the mother. The day nursery should be well lighted, and so situated that it will receive plenty of sunshine. The connection between the two nurseries should be capable of complete closure by a well-fitted door, so that one room can be thoroughly aired without chilling the other, and capable of being thoroughly isolated by sealing in case one of several children should be ill with a contagious disease. It is a good idea to have the communicating door or doors fitted with glass panels, so that in case of need the mother may inspect the nursery without entering it. This is of special value if a nursing mother has at the same time an older child sick in the nursery, whom it would be imprudent to visit, but whom she can see without danger through the glass doors. Adjoining or near to one of these rooms should be the nursery water-closet, which should be arranged with special reference to thorough ventilation. On the

next page is a ground plan of an ideal nursery, which has been prepared for me by my friend, Mr. Henry Ives Cobb, who has planned many of the finest homes in America.

DESCRIPTION OF PLAN FOR AN IDEAL NURSERY.

In the plan I have laid out I have disregarded everything except the necessary underlying principles of a satisfactory house for a family. The size and shape of the different rooms will depend upon the conditions under which the house is constructed, and the individual taste of the owner.

It will be noticed that the best room is taken for the family bedroom, in connection with which there is a dressing-room and a bath-room, thus giving proper and convenient arrangements for man and wife. One door closes all this from the hall. The family bedroom is connected with the night nursery, and that, in turn, with the day nursery. Convenient to the day nursery is the bath-room for the children, and immediately connecting with the day nursery is a small bedroom that can be used regularly as a nurses' room, but is very essential in case of sickness. It will be noticed that, while the house is comparatively small, two bath-rooms are provided. But I am sure you will agree with me in the sanitary idea of having plenty of running water, and avoiding the very common custom of a bowl and pitcher set upon a table or washstand, where one tries to wash oneself with a few teacupfuls of water, or take a bath, as some foreigners do, with a dash of water in a tin dish. The generous use of water should be encouraged by everyone, as there is nothing more health-giving. And the cost of the house had best be cut as to its ornamentation, and have proper and ample plumbing fixtures.

At night, doors "A," "B," and "C" are closed and locked, and the doors connecting the different rooms may all be left open.

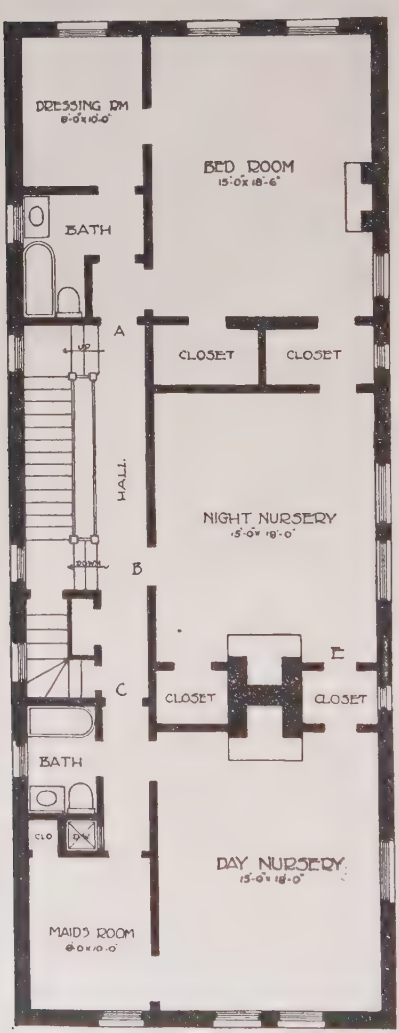

FIG. 5.

In case of sickness, the day nursery is used as the sick-room, with the maids' room for the nurses.

If the sickness requires isolation, then doors "C" and "E" can be closed, and the patient and nurse are entirely shut off from the remainder of the house, and have the children's bath-room for their exclusive use.

"D W" is a dumb waiter running from top to bottom of the house, that will save many steps, and during sickness is of great use.

"E" should be a glass door, so that in case of sickness the isolated child may be seen and yet infection avoided.

Every bedroom should have a fireplace,

as there is no better ventilator; but great care should be taken to see that there is a tight damper, as often when there is no fire there will be a serious down-draft.

The best system for introducing fresh air into a dwelling is by having very large flues for the heating apparatus. This should be enhanced by the windows, the sash of which should be constructed so that air may be introduced at the meeting rail without making an opening in the sill. This is accomplished in a very simple and effective manner by making the bottom rail of the lower sash about six inches wide, and having the inner sill ("C" in detail) of the window higher above the outer sill ("B") than is customary. Thus the lower sash can be raised to the position as shown in Fig. 6, II, without making an opening at the sill, and yet the air can pass freely into the room at the meeting rail "D."

But in case both space and money are wanting to provide such an elaborate suit of rooms, how can the necessities of the case — the actual requirements — be compassed?

The single-room nursery should be a large, bright, and sunny room, with a southern exposure, if possible, and it should be connected more or less directly with the sleeping room of the mother. It is presumed that the mother will desire to have an immediate oversight of her infant, no matter how trustworthy and efficient the child's nurse may be. A nursery large enough for one child and its nurse should be not less than twelve feet square. If there are two or more children to occupy it, the nursery should be correspondingly large. It should be well lighted, and have a well-guarded fireplace in it. A fireplace is not only a good ventilator,

I (SECTION) II

DETAIL · OF · WINDOW · FRAME ·

BY HENRY IVES COBB. ARCHITECT

FIG. 6.

but enables one to have a little fire mornings and evenings in the early spring and fall, when the house is not steam-heated. The floor should be uncarpeted and of natural wood. The only carpeting should be in the way of rugs, that can be shaken and well aired daily, or dispensed with temporarily during contagious illness. Its furniture should be simple, no matter how elegant and expensive.

No heavy curtain hangings or draperies are admissible. They only harbor dust and disease germs.

The washstand should be portable — not stationary— because all plumbing, no matter how costly and scientific, will become disordered in course of time, and is then a menace to life and health. The hardwood floor should be kept scrupulously clean, and the windows should be barred or otherwise protected against accidents.

But, doctor, is it necessary to have the nursery so plainly furnished? Your description sounds like that of a barracks, and, with the barred windows, something like a jail?

Now that I read over what I have written, I must confess that it does sound as if the nursery were to be a bare and unattractive place, but it need not necessarily be so.

A little display of tact and taste will make the room as pleasant as anyone could wish. The rugs may be as bright and cheerful as you please, but they had better be inexpensive. Painted walls always look nice, if they are clean and the tints are good. Besides the pictures on the walls, some growing plants may be placed here and there; a canary, or other singing bird, may be provided, and, if you please, an aquarium, a Wardian vase, or a globe of gold fish. Then, there are

baby's toys — the dolls and the doll house, the rocking horse and the tin soldiers, and the lettered blocks for building houses. Surely such a nursery, with a healthy and happy baby in it, is well furnished and presents a picture which is far from somber.

But are not flowering plants considered injurious in a room where a baby sleeps?

I think this objection is ill-founded, except in the case of flowering plants which give off a heavy odor. Such plants should be excluded. But a rubber plant or an orange tree, a geranium or a thrifty bush of marguerites are quite permissible and quite unobjectionable.

Does the fireplace afford sufficient ventilation ordinarily?

No; the principal dependence for ventilation should be from the windows. The open fireplace furnishes an admirable exit for foul air, but it does not furnish an adequate inlet for pure air. This can be readily effected by raising the lower window sash for some six inches and inserting in the space intervening a tightly fitting pine board. A better plan is that suggested by Mr. Cobb. (See illustration.) By this means a sufficient air space is left between the upper and lower sashes for the entrance of a due supply of fresh air. Another method of ventilation is to replace one of the glass lights of the window with a plate of tin or sheet-iron having a multitude of minute perforations. Wheel ventilators are made, consisting of a movable diaphragm and a revolving wheel, which is kept revolving quite noiselessly by the currents of air which pass through it. This is a very efficient device, since it provides both for the exit of foul air and the entrance of pure air from outside.

In case a stationary washstand is in the room, how can danger from it be avoided?

By exercising great cleanliness, and by disinfecting the waste pipe every two or three days. The basin must be thoroughly cleaned daily and wiped dry after each using. The waste pipe must be kept sweet and harmless by the frequent use of household ammonia, copperas, or Platt's Chlorides. Another, and perhaps still better, disinfectant is that known as Sanitas. A most efficient disinfectant, and one so cheap as to be within the reach of everyone, is copperas (sulphate of iron). The cost is but a few cents a pound, and a handful dissolved in a bucketful of water should be poured in the basin at least twice a week. Household ammonia is used in the strength of two tablespoonfuls to a gallon of water.

Since writing the above I have been told by a sanitary engineer that there need be no trouble about "sewer-gas," or noxious emanations from trapped pipes, if they are in constant, that is to say, daily, use. The traps, or "seals" as they are called, must be flushed out *daily*, so that the water in the trap is kept fresh. Unless this is done, the trap water becomes foul from stagnation. It absorbs gases from below until it becomes saturated, and then becomes a source of infection. The water-closet, the fine bath-tub, and the sitz-tub should all be put in action at least once a day, and if this is done, there need be no fear from sewer-gas. This seems perfectly reasonable, and obviates the necessity of lumbering up the house with disinfectants and deodorizers.

Is it proper to wash the napkins in the nursery and dry them before the nursery fire?

By no means. Diapers and all soiled clothing should

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be removed from the room at once, and not brought back until washed and thoroughly dried.

At what temperature should the nursery be kept?

Sixty-eight degrees Fahrenheit is the best temperature for the day, and 60° Fahrenheit is quite warm enough for night. A reliable thermometer is an essential part of the nursery furnishings.

What kind of bedstead do you consider best for the nursery?

Iron or brass is far preferable to wood; the former is easily kept clean, while the latter can not be.

What other furniture is needed in the nursery?

There should be large and small chairs, with and without rockers, and a low table, at which the children can play and, if need be, take their meals. The rockers should, by preference, be of the swinging kind, with invisible rockers. The table should be round, or, at least, without sharp corners. Another essential piece of nursery furniture is the nursery chair, which may be of wicker or wood, with a hole in the seat, and a place for the proper vessel below. A portable screen, tall and light, is another serviceable article for modifying lights and drafts.

What sort of pictures would you advise, if any, for decorating the walls of the nursery?

It is quite proper to cultivate in the mind of the child the love of the beautiful, and this can be done quite well and inexpensively by choosing out of the souvenirs accompanying the weekly or monthly periodicals such as are exceptionally attractive, or which are so simple as to readily appeal to the child's growing understanding. Some of them can be framed cheaply, while

others may be pinned to the wall so as to be easily taken down and cleaned.

What artificial light is best for the nursery?

Gas is, by all means, the best and safest. By using a shade the light can be regulated at pleasure, and no other device can satisfactorily take its place. The illuminated clock, which is arranged to set over a gas jet, made by the Elgin Watch Company, not only makes a good shade, but is a decided addition to the nursery.

Does not burning gas make the air of the room impure with the products of combustion?

To a certain extent, yes; but not so much so as a coal-oil lamp, which is an intolerable nuisance and very dangerous.

But supposing you can not get gas, what is the best substitute?

A wax candle, or, still better, a night lamp, of which there is quite a variety from which to choose. The "Pyramid Night Light" consists of a low brass stand, having a movable glass chimney, and provided with a porcelain cup upon which the candle rests.

Can you suggest any simple device for keeping water cool in the nursery?

A very neat device for the nursery is the Acme Water Cooler. (See Fig. 7.) It consists of a glass jar, having a capacity of one quart, which is inclosed within a double-walled can, so constructed as to be a non-conductor of heat. When the can is closed, the temperature inside is kept almost unchanged for an indefinite time. Ice placed in the jar will

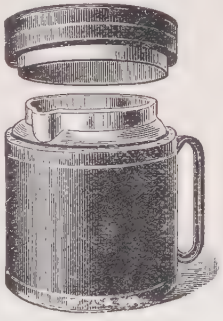


FIG. 7.

remain unmelted for many hours, and water may be kept perfectly cold all night. Owing to its non-conducting quality, the can is well adapted for retaining the heat of broth, gruel, or other food placed in the jar when hot. The can is lined with zinc or porcelain, the outside is handsomely japanned, and it is furnished with a folding handle, so the liquids may be readily poured out without removing the jar from the can (cost $1.25). It can be obtained at pharmacies and physicians' supply stores. See Chapter IX, "The Nursery in Sickness," page 307.

CHAPTER IV.

THE NURSEMAID.

Now, doctor, will you give me some suggestions as to the selection of a nursemaid for my baby? In asking this question I am well aware of the fact that nursemaids are not all alike. I wish to know the special, or at least the essential, points of a good maid.

This is a very important question, and I will try to help you in your selection. In the first place the maid should be neither too young nor too old — not under twenty-five nor over forty. If too young, she is apt to be careless and frivolous, and need so much watching and care-taking that she will be of but little use in relieving you of the details of the nursery, which you are quite right in seeking to avoid. I quite agree with you that a mother should not be, if she can avoid it, the nursery slave. But, in order that her mind may be free from care, she must have a trustworthy substitute in

the nursery during her absence, who will be competent to perform the duties of maid — and mother to a limited extent — and so relieve you of unnecessary care and anxiety. This is perfectly legitimate and correct. You will be all the better able to perform those duties and functions which no mother ought to delegate to another — that of nursing and directing the daily routine of the nursery — if you have a substitute in the way of a competent nursemaid.

If of suitable age her further requirements should be as follows: She should enjoy good health; her skin should be clean, and she should be full of animal spirit, not languid and moping. Two diseases are especially to be avoided, since they are liable to infect another person by contact or presence. One is consumption of the lungs, which is indicated by a cough, pallor, and emaciation; and the other is syphilis, indicated usually by an eruption on the skin or ulcers on the body. Then there are other diseased conditions which unfit a girl or woman for an infant's nurse, such as a chronic catarrh, old leg-ulcers, offensive perspiration from axillary glands or feet, foul breath from throat affections or decayed teeth. The nursemaid should be personally cleanly, otherwise she will keep neither the children nor their home clean. She should be tidy in her personal habits and dress.

She should have a good reputation for honesty and truthfulness. A dishonest or untruthful servant is always a source of misery, to say nothing of the example set before her charge. She must be trustworthy, or she will be unsafe and a nuisance. Character is quite as valuable here as elsewhere and everywhere.

The nursemaid need not be beautiful, in the ordinary acceptation of the term — indeed, it may be better for all concerned if she is not beautiful, for she will be less

sought after and more domestic; but she should be comely and well-mannered.

"*We do love beauty at first sight; and we do cease to love it, if it is not accompanied by amiable qualities.*"— LYDIA MARIA CHILD.

She should at least have a cheerful, pleasant face and a sympathetic demeanor. A really homely or sinister expression is to be deprecated, and an unhappy and melancholy person is intolerable in the nursery.

Children are quick to discern character. They know their friends by instinct, and above all things the nursemaid should love children and love to be with them. Patience is a virtue which is prerequisite in a nursemaid. An irritable and irascible temper has no business to associate with children. Patience and kindliness shed light and joy over and around the infant's crib and make the baby's home a veritable Eden, while a fretful and nervous mind will make a hotbed of trouble. Never trust your child to a cross or impatient woman, however desirable she may be in other ways. A surly nature is as contagious as measles, and more to be dreaded.

Gentleness of speech and behavior are also prime qualities. The nursemaid should herself be accustomed to say "please" and "thank you," and not be loud and short-spoken before the children.

Intelligence is another quality of paramount importance. The maid should be able to comprehend instructions and be able to carry them out without constant repetition and supervision.

A certain amount of experience is a recommendation, if it has not produced a self-opinionated and independent state of mind that prevents her adapting herself to the particular case in hand. Every mother should be the guardian and arbiter of her nursery and the habits

of her child. A nurse who has come to think that she knows it all and can not be taught anything should speedily retire from the field and seek some other vocation where she can gain further information in a new field of usefulness. A self-opinionated nurse will be in constant conflict with the mother, to the detriment of the child, as well as the comfort and happiness of the household.

You must not feel for a moment that because you are compelled to trust a part of your baby's care to a hireling, you have abdicated your mother's throne; for, however competent the nursemaid may be, she is not the child's own mother, and she can never, no matter how conscientious and devoted, feel toward your babe as you feel; she can not altogether take your place any more than you would have her take it. And you must also have in mind that she is human and therefore liable to commit errors, which, if not serious, should be dealt with leniently and kindly, and in such a way as not to disturb her relations with the infant, who for much of the time must look upon her as a sort of second mother. A child can have neither respect nor affection for one who is constantly censured or criticised.

But, doctor, one can not expect all the virtues for three or four dollars a week, and I fear I can never find one who will come up to your ideal.

Do not despair nor content yourself with an inferior person on first trial. There are plenty of women who will be glad to serve you in the capacity under discussion, and who will approximate the qualities here set forth.

When you have found such an one, treasure her so well that she will be content to stay with you.

Will you tell me how I can accomplish this?

Be gentle with her, as you would have her gentle with your child. Treat her by example as well as by precept. Never reprimand her in the presence of her charge. Let her understand from the beginning that you are the mother, but let her feel that she has your confidence and trust.

The nursemaid should be well paid. If capable and trustworthy she is invaluable to you, and she should feel that her services are appreciated and adequately remunerated. She should be allowed time for looking after her own personal affairs, which means time and opportunity for shopping and to see her friends without the attendance of the baby. Her outings are as important and necessary for her as yours are for you.

The mother, while controlling the daily routine of the nursery and directing everything connected with the baby's life and welfare, should sedulously watch everything and see that her instructions are explicitly carried out; and this should be done without showing distrust or open surveillance. She must act with the nurse and never, if avoidable, against her.

Do you approve of the nurse telling fairy tales to very young children?

Yes, if they be real fairy tales and of a pleasant nature; but the child should never be told stories that frighten it or make it fear to be left alone either by day or night. Stories of wild beasts, the drowning of naughty children, or ghosts and spooks wandering about in the dark, should never be tolerated in the nursery. Nothing should ever be told a child that shocks its moral sense or its trustfulness in that which is beautiful and true. Hobgoblins and evil spirits belong to a bygone age.

I am quite interested in what you have said about the nursemaid, and I think you are quite right. Will you point out to me wherein I must caution my maid, provided she is inexperienced, or restrict her, if she has been doing wrong previous to her coming to me?

There are certain things which I have noticed in nursemaids who were otherwise very acceptable, but which I have had occasion to speak about, and which I am glad to mention now, in order that you may be on your guard, for often I have found a word of warning was quite sufficient to stop the mischief, or to avoid it altogether.

First, then, Instruct your nurse that she is never, under any circumstances, to give medicine to her charge without the sanction of either yourself or the doctor. She is not supposed to take such responsibilities.

Secondly, She is never to punish or even reprimand your infant on her own authority and of her own volition. You are the one to administer punishment, and that duty should never be delegated to another.

Third, She should never use harsh or threatening language to her charge, nor frighten it into submission by telling some bogy story.

Fourth, She should never be permitted to vary the child's diet, substituting some strange or unusual article such as candy or preserves, without the mother's knowledge or consent.

Fifth, She should never take the child to a shop or friend's home without the mother's consent, nor should she associate with other maids who are unknown to her, while the infant is in her care.

PART II.

FOOD AND FEEDING.

Now good digestion wait on appetite, and health on both.
—SHAKESPEARE.

CHAPTER I.

NURSING.

Would you advise me to nurse my baby, provided I have sufficient milk, or may I not just as well bring him up on a bottle?

If you are well — that is, free from constitutional disease — I would most earnestly recommend you to nurse your babe, at least during the greater part of its first year. Few women realize what a calamity it is, both to mother and child, for the latter to be bottle-fed. True it is that children sometimes do well upon artificial feeding, but these are exceptions to the rule. Breast milk is the only natural food for a young infant, and art can only imitate that which nature elaborates in the breast of a healthy mother. The whole past history of mankind emphasizes the statement that infants fed at the breast are stronger, healthier, and far more flourishing than are those brought up on the bottle. They also resist disease much better. If, therefore, you have a plentiful supply of good milk, by all means give it to your child, and let nothing in the way of pleasures or social duties interfere with this one duty which is paramount to all others.

Aside from the duty of the mother to nurse her offspring, as you put it, is nursing a benefit to the mother, or otherwise?

It is of decided benefit to her as well as to her child. The woman who nurses will be much less liable to pelvic congestions and other womb troubles than one

who does not. It is a law of nature and therefore beneficial. It will aid much in reducing the womb to its normal size, and keep it so. The woman who deliberately allows the supply of milk in her breasts to dry, and gives her child over to a wet nurse, or attempts to bring it up on the bottle, hoping thereby to save herself trouble, makes a most grievous mistake. The annoyance caused by the average wet nurse, the troubles incident to bottle feeding, are incalculably greater than the trouble of nursing, to say nothing of the weakness and delicacy of constitution in her child which will be almost certain to follow.

But is not nursing necessarily a drain upon the mother's system?

Not if she is reasonably well, free from constitutional disease, and her functions of nutrition are properly performed. Lactation is a physiological process, and is no more debilitating than is the performance of any other natural function. I have heard many women say that they never feel so well and strong as when nursing a babe.

What diseases in the mother should influence her not to nurse her baby?

Cancer, scrofula, syphilis, inflammatory rheumatism, and any chronic or incurable skin eruption. Extreme delicacy of constitution is also prohibitory. Under any of these conditions the child is better to be fed artificially.

Should the mother nurse her babe sitting or lying down?

Always lying or reclining. This position best brings the nipple in juxtaposition with the baby's mouth, and is most comfortable for both parties.

May she drink tea and coffee while nursing?

In moderation she may indulge in either or both, but it is a mistake to suppose that either wine, beer, tea, or coffee will increase the flow of good milk. While it is true, as before stated, all fluids increase the flow of milk to some extent, this increase in quantity is often at the expense of quality, and the effect on the infant is the same as if a bottle-fed baby was fed on watered milk.

How about fruit and vegetables?

She may eat freely of those articles which experience has taught her do not disturb her own digestion.

I shall speak of this again later, but let me say now that the mother may eat anything without fear of its disturbing her babe, *provided it does not first disturb herself.*

I have known many instances of disturbing colic in a babe when mothers insisted that they had eaten nothing which could possibly have disturbed the baby, but, later on, the confession would be made that "just a little cheese," or "just a little bit of pie," or just a little of some other food had been partaken of, which the mother's experience should have taught her she should not have indulged in, and the mother's coated tongue has confirmed the diagnosis of indigestion transferred from mother to babe.

How soon after birth should the infant be put to the breast?

As soon as the babe is washed and dressed, and the mother has had a period of rest. This period of rest will depend somewhat upon circumstances. If her labor has been prolonged and she is greatly exhausted, she should have several hours of sleep before her infant is brought to her, but if her labor has been of brief

duration and she feels equal to the task, or, I should rather say *the pleasure*, of nursing, nothing but good can come from giving her the babe as soon as she chooses after the first toilets have been made. This is advantageous for both mother and child. Placing the babe early to the breast helps the contraction of the womb, and lessens the danger of flooding. It also encourages the lacteal secretion and enables the milk to flow more easily.

Does the milk come into the breasts immediately after the birth of the babe?

No. The first secretion is called colostrum, and there is scarcely ever enough of it to satisfy a hungry baby, even if it were good milk.

What is this colostrum?

It consists mainly of epithelial cells from the membrane which lines the milk ducts, mucus, and serum.

But is this healthful?

It must be, for it is the food which nature herself provides. It is of a laxative nature and helps to clear the infant's bowels, and puts the stomach in good order for better food, which is shortly to follow. Colostrum is nature's physic.

How soon is good milk secreted?

Usually the breasts fill up with good, wholesome milk on the third day after confinement. Occasionally it comes in on the second day, and then again not until the fourth.

How am I to know that the milk has come into the breasts?

The mother usually feels what old nurses call the "*draught*," or a certain fullness of the breasts, which is a sensation so novel as to be unmistakable.

But suppose there is really no milk in the breasts, and the baby cries and frets from its futile efforts to nurse; is there anything to worry about?

No. Wait a few hours before trying again. In no case become impatient or nervous. Everything will come right in time. Do not persist in futile efforts. The baby will not starve if several days go by without food. If the child is "born hungry," as sometimes happens, give it a little warm water and cream — one part cream to four parts warm water. But remember that in doing this you are apt to satisfy the infant so that the next time he is put to the breast he will not take it.

After waiting full three days, and there is but little or no milk, what is to be done?

Such an emergency as this is rarely encountered. Even mothers who are unable to nurse their babies for any length of time have some milk to start with. In such an event, however, a wet nurse is the best substitute. No artificial food will give the baby so good a start in life as breast milk. After the first month or two, artificial feeding may be resorted to without hesitation. Suggestions as to the selection of a wet nurse will be given in a subsequent section. If a good wet nurse can not be obtained, then some one of the cereal foods with cow's milk must be used. Barley water is the best among the domestic preparations, and Mellin's Food among the commercial foods.

Are there not some impediments to nursing that may prevent a new-born babe from getting the milk, even after it is secreted?

Yes, indeed. Sometimes the nipple is so illy developed that the act of sucking is rendered impossible. The nipple is often so retracted — that is, buried in the

bosom — that the tongue can not surround it so as to make traction. In such cases an older babe should be obtained, who, by experience and greater strength, can draw the nipple out; or the nurse or husband can perform the same office. Sometimes it is necessary to use a breast-pump for the purpose.

What can be done if the mother's nipple is so tender that nursing is painful?

Prior to the confinement this matter should have been looked after. But in cases of neglect, one of the best remedies is the following:

℞ Benzoin Comp. Tr. ʒ ss.
A camel's-hair pencil.

After each nursing, wash the nipple clean with a little warm water, or alcohol and water, and after drying apply the benzoin Tr. with the brush, and leave it until after the next nursing. The benzoin will not affect the baby — indeed, it is a useful remedy in nursing sore mouth.

What is to be done if the nipples crack or suppurate?

Apply the benzoin as before, and use a glass or hard rubber shield for a few days until the nipple gets well.

How can a "broken breast" be prevented?

By keeping the breasts well emptied of milk, and by keeping them well protected, both while nursing and during intervals.

But supposing one has so much milk that the clothing is constantly wet with the overflow?

Use a breast-pump and milk out the excess of milk. Women who have an excessive flow of milk should drink but little fluid and eat mostly solid food.

Can you explain to me the mechanism of nursing?

When one considers that a baby an hour old will, if strong and healthy, take hold of the nipple and nurse vigorously, it would seem that the act must be very simple; but in reality it is a very complex procedure, and would be impossible to one not endowed with divine instinct. When the child is born with a harelip or a cleft palate, there is an impediment to nursing, on the part of the child, that is insuperable until the impediment is repaired. The mechanism of nursing explains why this is so. The following description of nursing is quoted from Doctor Jacobi:

"When the child seizes the nipple, the lips, fitting accurately around it, close the cavity of the mouth in front, while behind, this cavity is closed by the soft palate, which falls like a curtain upon the root of the tongue. The tongue arches so as to touch the roof of the mouth, and the cavity is thus completely filled up, as the cylinder of a pump is filled by the piston. When the child begins to suck, the tongue is drawn back, just as the piston would be, and for the same purpose — to create a vacuum in the space left between its tip and the lips. Into this vacuum the milk is forced by the pressure of the atmosphere on the breast.

"As soon as the space is filled the milk is thrown to the back of the mouth by the tongue, which abandons for this purpose its office as piston, the soft palate is lifted up to a level with the roof of the mouth, thus closing the communication with the nose, and the milk falls into the throat, there exciting automatic contractions of the pharynx that occasion a distinct sound of deglutition, and alternates, therefore, with that of suction."

When the tongue is "tied," *i. e.*, bound down to the floor of the mouth, it is easily seen that the act of suction can not be accomplished until the defect is

remedied. It can not retract sufficiently to act as a piston. This impediment is easily removed by snipping the frenum linguæ sufficiently to release the tongue. This should be done with a pair of blunt-pointed scissors, care being taken not to cut too far back, for fear of injuring a branch of the lingual artery.

Is a baby ever born so weak that it can not nurse?

I have occasionally seen such cases. They are usually babies born prematurely. Let the milk be drawn from the breasts by means of a pump, or, better still, with the fingers, and then fed to the infant through a free-flowing nursing bottle. If otherwise healthy it will soon be strong enough to seize the nipple and draw with sufficient force to satisfy its wants in the natural way.

If a mother has a partial supply of milk, should she wean the baby or half nurse it?

She should first try to increase the supply by suitable diet and by remedies, and if this fails to provide a sufficient amount to satisfy the infant's needs, she should use her breast as far as possible and meet the deficiency by artificial foods. What milk the mother has is so much good food assured to the child. On the principle that "half a loaf is better than no bread," the mother should use what she has, for this is so much clear gain to the infant. Besides the mother's milk, however small in quantity, assists the stomach in digesting other foods.

Can anything be done to promote the secretion and overcome the deficiency?

This can only be accomplished by regulating the mother's diet. She should drink freely of cow's milk, and have an occasional bowl of gruel. Soups, broths, and fluids generally tend to promote the lacteal secre-

tion. Some of the thinner extracts of malt, as that manufactured by the Maltine Company of New York (Plain Maltine), I have found useful.

There are many medicines which are or have been used for this purpose, but there is no dependence to be placed on most of them. An infusion of cardamom seeds is a remedy that is sanctioned by many physicians, and by old-time nurses; but it has disappointed me in cases in which I have tried it. The only remedy which has proved serviceable in my hands is electricity —the faradic current. But I hesitate to recommend it here, because it is a remedy which no one ought to use without the advice of a physician, and applied under his immediate supervision. It is, however, a remedy of great value and is often effectual in establishing a free flow of milk after everything else has failed. Let the mother whose milk is scanty regulate her diet as heretofore directed, and take plenty of out-of-door exercise. Let her, besides this, do all she can to place herself in a perfectly healthy condition; if after this she finds her milk deficient either in quality or quantity, she will have to employ a wet nurse, or place the baby on a bottle with some one of the artificial foods.

Should a nursing mother drink wine or beer?

This will depend somewhat on her previous habits. No radical change is necessary nor advisable in this regard. The mother should do everything to promote her own health. The infant is exceedingly sensitive to changes in the mother's milk caused by indigestion. All excesses should, therefore, be scrupulously avoided.

She should avoid spices, condiments, everything indeed, stimulants included, which heat the blood or tend to disturb the stomach.

Her diet should be plain and simple, but nutritious

and strengthening. The nursing mother should treat herself generously, she should take extra lunches, and give herself plenty of sleep and be sure to take, each day, a due amount of out-of-door exercise.

What things in the mother's diet or habits are most likely to cause colic and derange the infant's digestion?

Anything which strongly affects the mother's nerves, such as sudden shock, fright, fatigue, grief, or passion. These are by far more common causes than are articles of diet. Menstruation is very liable to cause a temporary alteration of the milk, which is felt by the infant.

Is chocolate or cocoa good for a woman who is nursing?

Good cocoa is of great value as a milk maker. It not only increases the quantity of the mother's or nurse's milk, but improves its quality. During the whole period of nursing this nourishing beverage will be found highly conducive to both mother and child.

But the ordinary preparations of cocoa are so sweet and fatty that I do not like them. Is there any preparation that is free from these objections?

There are numerous preparations which are neither fatty nor over-sweet. There is one preparation which has long been used in Germany and has recently been introduced into this country under the name of Vigor Chocolate, or Kraft Chocolate, which I like very much, and which I have lately been recommending to my patients. In this preparation the fat of the cocoa is pre-digested, and hence unnoticeable. You must bear in mind that food rich in fat is most desirable for a babe, for infants require a great deal of it, and if they fail to get it, grow thin and weak.

How may I know if my baby is well nourished?

By frequent weighing. The weight after the first

week should constantly increase. The baby should also have a good color, and take a good sleep after each nursing. When awake he should be quiet and happy, not fretful and peevish. A well-nourished baby is a happy baby. He has but two wants, viz., to eat and sleep.

What are the symptoms which indicate that a nursing baby is not well nourished?

Such a baby is fretful, cries often, and is uncomfortable. Its sleep is fitful and irregular, and is broken up into short naps. It suffers from colic, and its stools contain undigested particles like specks of curd. It tugs at the breast for a long time, and wants it again after a short interval. At other times it exhibits a disgust for the breast, and after a few moments' nursing quits in disgust.

Is vomiting just after nursing a sign of indigestion?

Not if the child is otherwise healthy, and the milk comes up sweet and uncurdled.

Should the child take both breasts at one nursing?

The infant's stomach at first holds less than two ounces, while the mother's breast usually contains more than this; but if an excess is swallowed it overflows with the greatest ease. After a few weeks the stomach will hold and care for all that the average mother can secrete. One breast may be sufficient, but otherwise both breasts may be taken. It is not a good plan to insist on the infant's exhausting one breast before taking the other, because the milk which is freshly secreted is the richest. The better plan is to partially nurse both breasts, leaving the unused balance to be absorbed before the next inflow.

Why is it that most, if not all, infants show a preference for one breast?

It is probably due to some faulty habit of the mother by which she unconsciously makes the baby more comfortable on one side than on the other; or it may be due to some structural impediment in the ducts of one nipple which makes it harder to draw the milk from one side. In any event, the mother must insist that both breasts be nursed, or trouble will inevitably follow.

How long should the infant be kept at the breast for one nursing?

Usually until it is satisfied, which ought to be in about twenty or thirty minutes. The period is variable, however, but it ought not to be unnecessarily prolonged. The child should not be permitted to sleep on the breast. This is a bad habit, which, if favored, will only add to the mother's weariness and do the child no good. It may be said, in a general way, that it takes from twenty to thirty-five minutes to empty one breast, and after this is accomplished let the youngster play or sleep at its own sweet will.

How often should the child be placed at the breast during the first few days after birth?

Not more than four or five times. The mother needs rest, and there is but little milk secreted at this time.

How may I know that the milk has begun to flow abundantly?

By the satisfied condition of the baby; by its sleeping soundly and for a long time, and by its increase in weight.

How often should an infant be nursed during the first month?

After the third day, every two hours during the day and twice during the night.

But suppose the baby wants to feed oftener than this, and cries?

Try it with distilled or boiled water. Do not encourage feeding oftener by giving it the breast, for by so doing you are "sowing to the wind." The stomach must have rest, and if kept constantly performing the function of digestion it will soon show signs of weariness in indigestion, flatulence, colic, etc.

What are the proper intervals of feeding for a nursing baby after the first month?

The same as for infants who are bottle-fed, which will be explained later. Let me say here, for it will bear repetition, do not nurse or feed a baby out of regular intervals simply because it cries. It may have had too much food already. It may want a drink of water. The fact that it is pacified momentarily by nursing should not delude you. The warm milk as it enters the infant's stomach may give transient relief to its suffering, but this is, under the circumstances we are considering, only adding fuel to the fire. The stomach is perhaps already irritated or is inflamed by too frequent nursing, and to continue this practice is neither kind nor curative.

"*They are as sick that surfeit with too much, as they that starve with nothing.*"—SHAKESPEARE.

Too frequent nursing is responsible for a great many of the ills of babyhood, and the young mother should understand that giving the fretful baby the breast whenever it cries for *something*, is exceedingly unwise.

A lusty infant, if properly instructed in the earlier hours of its life, will awaken with the regularity of clock-work, and seek its meal every second or third hour, according to its custom.

What should be done if the breasts cake or become hard and inflamed?

This occurs from cold or when the breast is exposed to a draught. It may also be brought about by engorgement of the milk glands, as when the demand of the child is unequal to the supply. Relief may be usually found by gentle but firm strokes of the breasts from their margins toward the nipples, using hot lard and the bare hand. Old nurses are usually quite expert in thus relieving engorged breasts. A suspensory bandage is a very useful accessory to the treatment, which may be easily made by folding a soft towel bias and passing it beneath the breast and arm, tying it or pinning it behind the neck. A large silk handkerchief may be utilized in the same manner. The proper internal remedies for this condition are: Bryonia — if there is chill or severe aching of the muscles of the body; belladonna — if there is throbbing of the head as well as the breasts; or phytolacca — in the absence of other symptoms than those referable to the breasts.

Do the nipples require any special care if they are not sore?

To keep the nipple in good condition the mother should observe regularity in nursing, and should invariably and immediately after nursing, dry the nipples gently but thoroughly with a soft clean cloth, and for the first week or two smear them with a little olive oil. This will keep them soft and pliable and prevent cracking.

In case of broken breast, should the baby be permitted still to nurse the affected side, if the pain can be borne?

By no means. The infant should be restricted to the well breast altogether until the abscess is healed, by which time, in all probability, the milk in the breast will be good.

If partial feeding becomes necessary, what is the best food wherewith to supplement the mother's deficiency?

Fresh cow's milk, properly diluted and sterilized, with some one of the baby foods, which will be described later, when we come to consider artificial feeding.

At what age should a babe be weaned?

Unless in midsummer, the weaning should begin when the infant is six or seven months old, but circumstances may make it advisable to hasten or postpone it.

What circumstances do you refer to?

The mother's health may be such as to warrant a substitution of other food than that she furnishes sooner than the time just mentioned, and again it is never wise to make a change in the food of an infant in the midst of summer or just as hot weather is approaching, if such a thing can be avoided. If, however, the baby ceases to grow or becomes ill from some clear defect in the mother's milk, immediate weaning becomes imperative, regardless of the season of the year. Under other and better circumstances it is well when the infant has reached the age above mentioned — say six or seven months—to substitute the bottle in place of the breast, at first, once or twice during the twenty-four hours, and then more often, until the bottle is substituted altogether.

Then you prefer gradual to abrupt weaning?

Yes, under ordinary circumstances. All abrupt changes which apply to infants are attended with

danger, and are to be avoided when practicable. I have met with instances, however, when the gradual process was met with so vigorous and persistent a protest on the part of the "young hopeful" that severe measures were rendered necessary. In such cases the child should be taken away from the mother to a remote part of the house and be literally starved into acquiescence. While this seems cruel and harsh, if weaning becomes necessary it may be the only successful method to use. Extreme measures like this are but rarely necessary. As a rule a young babe will take a bottle quite readily, and some may prefer it to the breast. The weaning process, if gradual, may be extended until the babe is ten or eleven months old, but should rarely, if ever, extend into the second year. By this time, no matter how well and strong the mother is, her milk will have so deteriorated that it is little better than water, and possibly not so good.

What circumstances would render it expedient to hasten weaning and suspend entirely the function of lactation?

Under ordinary circumstances, and unless there be some peculiar state of affairs, pregnancy necessitates an immediate suspension of lactation, for no woman can do justice both to the one present and the one to come. The development of a rapid decline on the part of the mother, or if she develop any severe acute disease, such as typhoid fever, pneumonia, or the like. If it should become suddenly necessary for her to take a long and fatiguing trip, it is a serious question if it would not be better to wean her baby than to add its drain upon her to that of the journey. The question is less complicated if there is already a noticeable falling off in the quantity or quality of her milk, or if the

infant has already reached an age—say that of a year—when complete weaning is almost imperative under any circumstances.

Does the return of the menses interfere with nursing?

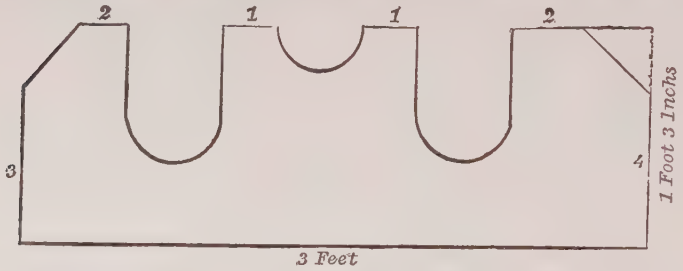
Not always, although the occurrence very often does render the milk unfit for the child while the period lasts. This, however, is not an invariable rule, and the mother should do nothing of such moment precipitately. After the occurrence of one monthly period there may be no reappearance of it for several months, and in such case weaning is quite unnecessary. Even if the periods should return regularly, if they are painless and not too profuse, the child may experience no serious inconvenience, in which case they should be disregarded when considering the question of weaning.

If a mother is compelled to wean her child prematurely, is it not best and safest to supply a wet nurse rather than to resort to artificial feeding?

There is no question but that the milk of a good wet nurse is very greatly to be preferred to bottle feeding. But mark the words carefully, "a *good* wet nurse," whose milk is of the right age and quality, whose personal habits are unobjectionable, who will not act the petty tyrant after the first twenty-four hours, who will take pains to keep her milk pure and wholesome, who will not abandon her situation and her charge at the slightest provocation. Such a nurse is almost as difficult to find as it would be to hit upon a full-plumed, white-winged, personified guardian angel. Nevertheless, in the case of a delicate child, or the failure of artificial food to agree, it may be advisable to discount imperfections and accept the best wet nurse available, even if she is not quite up to the ideal standard.

How should the mother's breast be cared for after weaning?

If the weaning has been gradual there will be little trouble with the breast, the quantity of milk will quickly diminish and nothing will be required except to have the breasts bathed twice daily with warm camphorated oil. In case it becomes necessary, in the interest of the child, to cease nursing suddenly, there is danger of inflammation from engorgement of the lacteal glands, which can usually be arrested by the use of a breast-pump. If there is any pain in the breast after nursing has been



stopped, the breast should be thoroughly anointed with camphorated oil or belladonna ointment, and then covered over with a thin layer of absorbent cotton. Over this a breast bandage should be placed, which may consist of strips of muslin wound around the breast and opposite shoulder several times, each separate layer slightly overlapping the one below. A bandage much in use is made of a straight piece of unbleached muslin a yard long and half a yard wide, in which holes are cut for the neck and arms, as shown in the accompanying cut. This bandage is both simple and efficacious. Part 1 meets Part 2 and is fastened over the shoulder; 3 and 4 meet in front and are fastened by safety pins.* The bandage should be put on tightly and left on for a

* Dr. Aimée Raymond Schroeder.

week or more. In case of pain in the heart the pressure of the bandage should be increased rather than diminished.

After weaning, is it proper to give the baby such food as crackers, bread and butter, etc.?

If the crackers are well dried, or rebaked in the oven, but there is little or no real nutriment in crackers, and unless baked until they are almost charred they are not altogether safe. If bread is used it should be stale, and but little butter, if any, should be used. Butter is very apt to upset the stomach by developing butyric acid during its digestion.

NURSING SORE MOUTH.

What causes nursing mothers to have sore mouth?

A too restricted diet, lack of exercise and fresh air. It is closely akin to scurvy, and is often tedious and intractable.

What are its symptoms?

It consists of an inflammation of the lining membrane of the mouth, which is attended with a profuse flow of saliva. The inner lining of the lips and the sides of the gums are covered with minute ulcers, and a cheeselike matter exudes from them. There is a sense of burning and stinging at the seat of these ulcers, and chewing is attended with much pain.

What are the remedies for such a condition?

The mother should wean her child, because she can not take a proper amount of nourishment for herself when her mouth is so sore, to say nothing about the baby. Her milk will surely deteriorate, and the infant will suffer in consequence. She should drink freely of acid drinks, such as lemonade, lime-juice, etc., and should eat freely of vegetables and seasonable fruits.

If fresh fruits can not be obtained, let her eat baked apples, prunes, and other dried or preserved fruits.

She should wash the mouth frequently with a solution of borax — ten grains to the ounce of water — or Hydrastis Tr., diluted one-half. Internally she should take Mercurius Sol. 3x three times daily.

Will eating candy and sweetmeats produce this trouble?

Yes, the excessive use of sweets is a prolific cause of sore mouth. Neither the pregnant woman nor the nursing mother should gratify her taste for sweets, except in the most moderate degree. Puddings, pie, pastry, and sweets of all kinds are apt to produce acidity of the stomach and a consequent derangement of the nutrition of the mucous membrane.

CHAPTER II.

THE WET NURSE.

In what cases should a wet nurse be employed?

In case the mother's milk fails or she becomes ill, and the baby is under eight or nine months of age, the question will arise as to the propriety of employing a wet nurse or bottle-feeding the infant. If a good wet nurse can be secured, this is by far the best and safest plan. If the baby foods disagree and the infant falls into a decline, a wet nurse is an absolute necessity. In case the child has reached the age of six or eight months on either domestic or commercial baby foods and does not thrive, it will be very difficult to get him to take the breast in the natural way. In such case many a baby's life has been saved by milking out the breast of a

healthy woman and giving the milk by spoon or bottle. After a little time the stomach will retain other food.

In case a wet nurse should be required in an emergency, what am I to do?

Consult your physician first of all, if he be available. If not, you must exercise your own judgment in making a selection. In the larger towns and cities it is almost always possible to make a choice between several applicants.

The wages of a wet nurse are high, as compared with other vocations of women, and there is generally but little, if any, difficulty in supplying even a sudden demand.

What are the requisites of a desirable wet nurse?

She should not be younger than twenty nor older than thirty or thirty-three years of age. In making a choice see if she is able to produce a free flow of milk with her fingers — if not, and your babe is a weakling, she will not do. A woman with plenty of milk and free ducts should be able to empty her breasts almost as readily as you would milk a cow. If the babe is strong he may be able to overcome any defects in this particular, but otherwise it may be a serious objection. If married, she may have had several children without prejudice, but if unmarried, it is against her if she has had more than one illegitimate child. While strict morality is desirable in a woman, it is not a prime necessity, but at the same time a woman who has repeatedly gone wrong is presumably bad and immoral by instinct, and therefore unfit for a nurse.

Almost all that can be said on this important subject is poetically expressed in the following lines from Saint Marthe in Pædotrophia:

Choose one of middle age, nor old nor young,
Nor plump nor slim her make, but firm and strong;
Upon her cheek let health refulgent glow
In vivid colors, that good humor show.
Long be her arms, and broad her ample chest,
Her neck be finely turned, and full her breast;
Let the twin hills be white as mountain snow,
Their swelling veins with circling juices flow;
Each in a well-projecting nipple end,
And milk in copious streams from these descend.
Remember, too, the whitest milk you meet,
Of grateful flavor, pleasing taste, and sweet,
Is always best.

Are applicants for such a position to be trusted as to their representations?

There is every incentive to prevarication — high wages, a good home, and comforts which only wealth can enjoy, all these seem to tempt the woman to conceal defects, etc. Oftentimes other selfish motives incite the woman to conceal facts which, if known, would debar her from assuming such responsibilities as are inseparable from such a position.

How, then, am I to proceed in the absence of my family physician?

Ascertain as fully as possible her family history. If her baby is living, have her bring it to you for inspection. See if it is plump and apparently healthy. Is it quiet and happy? If the applicant is a married woman, and has lost one or more children, what did they die of? (What caused their death?) If these questions are answered satisfactorily, inquire further into the woman's present condition. Is her husband still living? Will he trouble her or give her annoyance in her new position? Is she free and happy in her own mind? Has she menstruated since her

baby's birth? Does she suffer pain or flow excessively at such times? Is she so situated with reference to her husband and friends that she can remain with you for a period as long as necessary? What disposition can she make of her own babe if living? Will she be obedient to your will as mother of her charge and mistress of your household? Is she neat and tidy in her person and apparel? Is she pleasant and affable in her speech, or is she glum and sullen? If the latter, dismiss her at once. She is not the one you want.

But if the woman is unmarried, how can I ascertain whether she will prove worthy or not?

As I have already hinted, a wise and experienced physician is alone competent to pass judgment after making an exhaustive examination; but if thrown upon your own resources, I will endeavor to give you some points which will at least help you in making a choice of nurses if several such women apply for the situation. Do not forget, for a moment, that upon your careful judgment may depend the life or happiness of your babe and your household. You must ascertain if the applicant before you is capable of fulfilling the requirements of a nurse, and you can only determine this by waiving ethics and getting down to bare facts. Find out, then, if the age of her milk is near that of the age of your baby. If there is any great difference, say a difference of several months, you had better make another choice. Ask her what diseases she has had, and about her present physical condition. Where is her child? Has she any skin disease, or other evidence of blood disorder? Has she good teeth? If so, is it indicative of good digestion? Are her eyes bright and muscles firm,

or is she lazy and stupid in appearance? As a rule, blonde women are better nurses than brunettes — they are more placid and equable in temper, less irritable and nervous; therefore, better foster mothers. If her babe is dead, see the physician who attended it, and find out the particulars of its death. Examine her breasts, and ascertain, first, if there is a free flow of milk. Are the nipples well formed — neither too large nor too small? As a final test, have her bathe her nipples with water, and after it is well dried, place the new charge on her breast and watch its behavior. As soon as it is through nursing, examine its mouth in order to ascertain if there is milk in it, for unless there is evidence of milk, the nurse may be deceiving you. If these preliminaries are satisfactory, you must then arrange the details of her engagement. She should be given to understand, from the beginning, that she is employed for a specific purpose; that she must observe certain requirements that are essential to her health in the matters of diet, exercise, etc., and that she must not, under any circumstances, give the baby either medicine or food — other than that derived from her own breasts — without your knowledge and consent. She should understand fully that you still have full charge of the infant's daily life, and that you have in no sense and in no degree abdicated your throne as mistress of the domestic realm.

Bear in mind that a woman who may be excellently qualified to nourish the child is not necessarily intelligent or properly educated in regard to the care of it in other particulars, and these maternal duties — all but the nursing — should be reserved for the mother. She should still have constant supervision of the nursery and its belongings in order that the rules of health may be observed, and in case a change of nurse

becomes necessary there be no unnecessary friction accompanying the change.

Is there anything special regarding the nurse's diet which I should know about?

Whatever her antecedents, if she be strong and well, it is best to keep fairly close to the diet she has been having and to which she is accustomed. In all probability this has been plain and simple. The greatest danger to her health and that of her new charge will come from surfeit and consequent derangement of digestion. It is very essential, every way essential, that she should maintain her appetite and not fritter it away on such new foods as she is unaccustomed to. To one habituated to a lowly fare, rich soups, spiced meats, and pastry, if indulged in to any considerable extent, will soon produce satiety, biliousness, and a deterioration, if not loss, of milk. What the nursing woman needs in the way of diet is a sufficient quantity — and she must eat practically for two individuals — of good plain food. Her menu should include both vegetables and meat — beef and mutton rather than pork. Poultry and fish are admissible. She may have tea and coffee in moderation. Oatmeal, farina, cracked wheat, hominy, shredded wheat, and all of the new "breakfast foods" are admirably adapted to her dietary, since they all contain the phosphates so necessary to the upbuilding of the infant's bony structure. Whatever the habit of the real mother and of her immediate household, the use of alcoholic stimulants should be barred the nursing woman. She should be able to dispense plenty of nourishment without the aid of tonics and stimulants, or give way to another who can do so.

It may be said that while the average wet nurse is very human and oftentimes very frail, she should cer-

tainly, while attempting to do her duty, be treated with discreet consideration and made as comfortable and happy as circumstances will allow, for the quality of her milk will largely depend upon the serenity of her mind and upon the helpful and hopeful character of her surroundings.

One error I have occasionally noticed, and it may be mentioned here. With people of moderate means it may seem out of all character to pay a woman high wages for simply wet-nursing a baby, and she may be expected to put in her leisure time in assisting in the household duties. In some cases this may answer, but a complete understanding should be had to this effect from the outset. Persons in affluent circumstances should not expect menial duties from a wet nurse. She should look after herself and her room and take at least partial charge of the nursery. She should, however, have leisure for walking and exercising and plenty of time which she can call her own, for rest and for recreation. In no other way can she be contented in mind, healthful in body, and fulfill the high duties for which she is engaged.

You just spoke of "serenity of mind" as affecting the character of the nurse's milk. If she should prove to be irritable in temper and easily angered, is this a serious objection to her, provided other things are satisfactory?

Yes, decidedly so. I have cited instances elsewhere in which a mother's milk has been rendered absolutely poisonous to her babe by sudden anger, or by some nervous shock. After a nursing woman has been angry, or her mind and temper has been seriously and suddenly disturbed, she should not nurse an infant until after the milk in her breast has been milked out and

thrown away, and she should not put the infant to her breast until her mind has regained its composure and new milk is secreted.

The following incident well illustrates how an irritable temper in the mother may affect the health of her nursing baby:

At the Lincoln Park Sanitarium, where scores of sick babies are brought daily during the summer for fresh air and medical treatment, a woman came last summer with a puny nursing child some six months old. It had diarrhœa; it was thin, almost pinched, in appearance. It was excessively nervous, and started at every noise. It slept but little, and then in half naps. The mother was a dark-haired, black-eyed woman, under thirty years of age, apparently in good health, and with plenty of milk. She was very anxious about this, her only child, and could not understand why it did not thrive. She came to the sanitarium daily for several weeks, and the baby would be better and then worse until the doctors were puzzled to know what prevented the child's recovery. Finally, one day, the superintendent asked her about her domestic relations. "Do you and your husband live happily together?" he asked. "Oh, yes; I guess so," she said.

"Well," said Mr. Faye, "do you often get angry at your husband?" "Oh, some," was her reply. "We quarrel almost every day about something, and, of course, I get mad."

"Well," said Mr. Faye, "don't you know that that is just what is making your baby sick? Anger in a mother is certain to change her milk, and every time you get mad, it so alters your milk that it turns it into poison. You must stop getting angry at your husband, and live in peace with him and the rest of the world, or you will kill your baby."

The woman disappeared, and never came back to the sanitarium; but some six months afterward a woman with a big, fat baby called at his office, and said to Mr. Faye: "Do you remember me? I want to show you my baby. Isn't he fine? You told me it was my getting angry that ailed him, and I haven't got mad since." Sure enough, this was the same black-haired, black-eyed woman whose baby baffled the skill of the medical staff at the sanitarium the summer before, now strong, well-nourished, and healthy, because its mother ceased getting mad.

CHAPTER III.

ARTIFICIAL FEEDING.

After human milk, what is the best food for an infant?

Cow's milk, so modified as to make it resemble as nearly as possible human milk.

How does cow's milk differ from human milk?

It contains nearly three times as much curd (casein) or cheesy matter, and only about one-half as much sugar. Besides this, the curd, which is essentially the nutritious part of the milk, is coarser and denser than that of human milk, and consequently is not so easily digested.

Of what is human milk composed?

Eighty-seven parts water and thirteen parts solids, the latter being composed, for the most part, of salts, fats, and proteids.

What are the "salts" you speak of?

Mostly the salts of potash, soda, and lime, all of which are necessary for the formation of bone during the child's development.

What is the fat in milk?

The cream.

What are the proteids?

The curd of the milk, which is very similar to the albumen (or white) of an egg. It is the muscle-making element of milk.

What other essential element in milk is classed with the solids?

A carbohydrate or heat-producing element, viz., sugar. This sugar differs from cane sugar in certain important particulars which it would be difficult to make you understand, but which will be referred to later, when we come to speak of malt sugar, or maltose, which is found in certain grains used in the manufacture of baby foods.

If the curd in cow's milk is so much in excess of that in human milk, can not this be corrected by diluting the milk with water?

By adding water to cow's milk you may reduce the casein (or curd) to the proper proportion, but in doing so you also reduce the relative proportion of salts, fats, and sugar below that in human milk, and below what is required for full nutrition. In other words, there is in diluted cow's milk too little cream and too little sugar, both of which elements are essential to the well-being of the infant.

What is top milk?

It is the upper third or half of the milk which is taken off after it has stood for six or eight hours.

How does this differ from ordinary fresh milk?

It contains about three times as much cream, and less curd and other solids, which have settled to the bottom portion while the cream has been rising.

How should the top milk be treated?

If diluted with two parts water and sugar be added, it is nearly like mother's milk in its relative proportions.

How much sugar should be added to the diluted top milk?

One heaping teaspoonful of milk sugar to every four ounces of food; or if cane sugar is used, one teaspoonful to every six ounces.

How is top milk obtained?

It is to be carefully skimmed off with a spoon or shallow cup, or, still better, taken off with a glass or rubber siphon. The milk should stand for at least six hours before being disturbed.

Is this top milk treated in this way like human milk?

The proportion of solids and fluids are about the same, but the elements are different. The albuminous element — the curd — which is the essential nutritive part, is still very different in its structure and action from the same element in human milk. When the curd of human milk meets the acid of the gastric juice, which it does as soon as it enters the stomach, it coagulates in minute particles, or flocculi, which the pepsin of the stomach can act upon with great readiness; the curd of cow's milk being much coarser and firmer, coagulates under these circumstances into large and hard clots or masses, which are quite indigestible if the child's stomach is sour from an under-amount of acid being present.

How can this be prevented?

Only by adding some bland and unirritating substance to the milk before it is swallowed, which will mingle with the particles of curd and separate them — hold them apart — until the gastric juice can act upon each separate particle and digest it.

What is the best thing for this purpose?

There are various articles which may be used. Probably the best is barley water, which we shall speak of again presently. Gum arabic, gelatin, and other innocent materials are used successfully and have their stanch advocates.

Do you approve of boiling milk for babies, especially in summer time?

If you understand that the curd of milk and the albumen of egg are identical in character, I scarcely need answer the question. You would not think of giving an infant the "white" of a hard-boiled egg. Giving boiled (thoroughly boiled) milk to a young babe would be equally reprehensible.

What is Pasteurized milk?

It is milk heated to a temperature of 170° F. or thereabouts, which, experience has proven, is sufficient to kill the germs which are in it.

What harm do these germs do?

Some of them cause the milk to turn sour, while others may be the cause of sickness in children.

Where do these germs come from?

The air is full of them. The udder of the cow swarms with them, as do also the hands of the milker. Every step which the milk takes from the cow pasture to the

nursery is beset with germs, some of them very poisonous in their nature.

Should milk, then, always be Pasteurized when used for infant feeding?

In the country where fresh milk can be obtained there is little danger from germ-contamination; but in cities, where the milk is not so fresh, it is always desirable. In summer, when germination is particularly active, Pasteurization should never be omitted.

Does not this partial boiling of milk interfere with its digestibility?

No doubt to a very slight extent it does, but the advantage of rendering the milk pure and free from disease-producing germs greatly outweighs the other consideration.

What is sterilized milk?

It is milk brought to the boiling point, or 212° F. In common parlance it is *scalded milk.*

What are the relative advantages of sterilized and Pasteurized milk?

The latter is but little, if at all, altered in taste, while it is presumably free from all noxious principles. It is quite as easily digested as plain milk, but it will only keep in hot weather for a day or two. Sterilized milk has the taste of boiled milk, and is not so easily digested, especially by young babes, but it will keep fresh, if put on ice, for two or three days in midsummer.

Is there any simple way of treating milk that will answer the purpose intended without resorting to special apparatus?

In a crude way it may be said that Pasteurized milk is milk heated until it is thoroughly heated through,

while sterilized milk is heated until heat bubbles come to the surface. The moment the milk reaches or almost touches the boiling point it should be removed from the fire.

What is the simplest method of sterilizing milk?

A very simple method of accomplishing this object is as follows:

The vessel containing the milk, which may be the bottle from which it is to be used, or any other suitable vessel, is placed inside of a larger vessel of metal, which contains the water. If a bottle, it is plugged with absorbent cotton, if this is at hand, or in its absence other clean cotton will answer. A small fruit jar, loosely covered, may be used instead of a bottle. The requirements are simply that the interior vessel shall be raised about half an inch above the bottom of the other, and that the water shall reach nearly or quite as high as the milk. The apparatus is then heated on a range or stove until the water reaches a temperature of 155° F., when it is removed from the heat and kept tightly covered for half an hour. The milk bottles are then taken out and kept in a cool place. The milk may be used any time within twenty-four hours. A temperature of 150° maintained for half an hour is sufficient to destroy any germs likely to be present in the milk, and it is found in practice that raising the temperature to 155° and then allowing it to stand in the heated water for half an hour insures the proper temperature for the required time. The temperature should not be raised above 155°, otherwise the taste and quality of the milk will be impaired.

The simplest plan is to take a tin pail and invert a perforated tin pie-plate in the bottom, or have made for it a removable false bottom perforated with holes

and having legs half an inch high, to allow circulation of the water. The milk bottle is set on this false bottom, and sufficient water is put into the pail to reach the level of the surface of the milk in the bottle. A hole may be punched in the cover of the pail, a cork inserted, and a clinical thermometer put through the cork, so that the bulb dips into the water. The temperature can thus be watched without removing the cover. If preferred, an ordinary dairy thermometer may be used and the temperature tested from time to time by removing the lid. This is very easily arranged, and is just as satisfactory as the patented apparatus sold for the same purpose.

This seems to me to be rather a complicated process. Is there not some sort of apparatus made that will simplify it?

Various forms of sterilizers have been invented, but that of Arnold's is the simplest and best. This apparatus is provided with eight bottles, each holding about seven ounces, and each bottle is marked on the glass with a graduated scale, by means of which the exact amount of nourishment poured into them can be accurately measured.

As soon as the milk and cream come in the morning enough of the baby food should be prepared as will suffice for the day.

The bottles, previously cleaned with a bristle brush and dried, should each be filled with as much milk as is required for each feeding, having previously added either soda or lime water, as directed on page 97. The bottles must have their mouths carefully dried and stopped with plugs of ordinary raw cotton. They are then placed in the rack in the sterilizing chamber and the lid and hood are applied. The pan of the sterilizer

is now filled two-thirds full with water, and the whole is placed on the hot stove for an hour. About twenty minutes of this time will be occupied in heating the milk up to the proper temperature, and the remainder in keeping it at that point and thus sterilizing it. Raw cotton is used as a plug because experience shows that the most minute germs can not pass through it. It is necessary, however, that it shall not come into contact with the milk. When it is desired to carry the bottles about to any extent after sterilizing, it is better to use a rubber cork instead of cotton. In this case the bottles, with the corks very loosely in place, are put in the sterilizer for about twenty minutes until the liquid and the air contained is thoroughly heated. The corks are

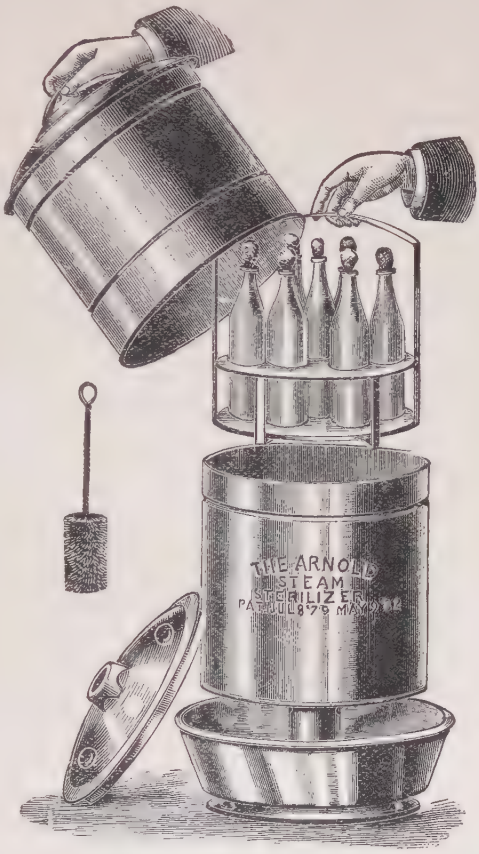


FIG. 8.

then pushed firmly into place and the sterilizing is continued. The bottles thus corked may lie afterward in any position. Sterilized milk prepared in this way should keep perfectly sweet without being placed on ice. As an additional safeguard, however, it is better to keep the bottles in a cool place, although this is not needed if the process has been properly carried out.

Do not forget that the cotton plug must never be removed, even for a moment, from the time it is first put in place until the time for feeding the baby comes.

Food prepared as described above will keep perfectly well for twenty-four hours at least, but in the hottest weather it is an additional safeguard to reheat in the evening the bottles which are to be used during the night and early morning.

But if one is traveling it seems impracticable to continue the use of sterilized milk. Is it not so?

The difficulty is easily overcome by sterilizing a larger quantity and sterilizing the food repeatedly. For instance, let the bottles be subjected to sterilization upon one day, again upon the second, and again upon the third. Instead of carrying so many small bottles, let the thoroughly sterilized milk be poured into larger bottles, which themselves have been previously baked in the oven or otherwise sterilized, and after being well corked with a new hard rubber cork such milk ought to keep fresh for a week or more.

When is lime water to be used with milk, and why?

The use of some alkali neutralizes excessive acidity of the milk, both before and after it is taken into the stomach. Sometimes the milk is approaching the turning point when received and the alkali is necessary to arrest the change. Again, if the baby's stomach is at all sour the milk is apt to be quickly coagulated into an

insoluble bolus before it can be acted upon by the pepsin in the stomach, whereas if the acid in the stomach is partially neutralized this change is retarded and digestion goes on more slowly and naturally.

How is lime water procured?

People who do not mind expense procure it of the druggist, but if lime water is being constantly employed a considerable saving can be effected by preparing it at home. Take a piece of unslacked lime as big as a small lemon and drop it into two quarts of filtered water contained in a jar, stir thoroughly and allow to settle. In using, dip off from the top and replace what is taken with fresh water. As often as fresh water is added the jar should be stirred or agitated.

Is there any other alkali used for this purpose besides lime?

I think bicarbonate of soda (common baking soda) is far preferable. Lime water as ordinarily prepared contains less than half a grain to the fluid ounce of water, so that unless at least a third part of the milk mixture is lime water it is of little use. Bicarbonate of soda is ten times as efficient as a neutralizer and is less irritating to the stomach.

How is this used?

Two to four grains of the bicarbonate of soda are to be added to each bottle of food.

When should this be added to the milk, before or after sterilizing?

If lime water is used, its effects will be destroyed by heating the milk, as the lime will be precipitated, but if soda is used it can be added before or after, it matters not which.

What is peptonized milk?

Milk that has been partly digested by the addition of some form or preparation of pepsin before it is taken into the stomach.

What part of the milk has been digested?

The curd.

Does peptonizing the milk alter its taste?

If only partially peptonized the taste is not perceptibly altered, but if fully peptonized the milk has a bitter taste.

How is milk peptonized?

By the addition of some peptonizing powder, of which Fairchilds Bros. & Foster's is probably the best. A measure comes with each package of the powder and full directions how to use it. After a proper quantity of the peptonizing powder has been added to the milk it is kept at a temperature of 120° F. (or about as warm as the finger will bear easily) for from ten to twenty minutes, if it is to be partly peptonized, or for two hours if it is to be completely peptonized.

Do you approve of giving a child peptonized milk?

It is perhaps a good expedient in some cases of acute indigestion, when the stomach is very weak and there is no pepsin secreted naturally, but to use peptonized milk for a steady diet, and with a healthy infant, would be like putting your arm into a plaster cast and expecting it to gain in strength while the cast is on. Every organ should be encouraged to do its duty and perform its allotted function. Food which is predigested may be assimilated for a time, but the stomach meanwhile will, for lack of use, become more and more weak and helpless.

In preparing partly peptonized milk, should all the bottles for the day's use be peptonized at once or for each feeding separately?

It is always best to have a small supply ahead, but if a whole day's supply is prepared at once the milk should be scalded *after* peptonizing, or it will become bitter after a little. In any case the unused portion, or that set aside for future use, should be put on ice and never left standing uncovered in the pantry or kitchen.

In obtaining milk for the baby's use, is it best to get the milk from one cow?

It is far better to get the mixed milk from a herd of cows, such as is supplied from a dairy and distributed by an honest dairyman. No one cow, however carefully bred, but will have her occasional illnesses, during which her milk will be poor or colicky. Stall-fed cows always give milk which is more or less acid, and therefore liable to cause disturbance. All milk dealers are ready and glad to provide the baby, for a little extra consideration, with the freshest and best milk which comes from the dairy. Your milkman should be provided with a special milk-can for your special use, and sufficiently rewarded to stimulate him to exercise care in his attentions to your special needs.

But if one can get fresh milk from a young Jersey cow or from an Alderney, is this not better than ordinary dairy milk?

It is far otherwise. The milk from highly bred cows like those you mention is very rich in cream, but is usually deficient in casein, which is the essential element for a baby's growth. Besides this, it is a notorious fact that the more highly bred an animal is the more delicate it is and the more subject to constitutional

diseases. The coarser bred cows give better milk and are more hardy and less liable to all sorts of illnesses. The milk from a sick cow is as deleterious as the breast milk from a sick mother or wet nurse.

When speaking of diluting the milk, do you mean that the proportions mentioned shall be observed all during babyhood?

The proportions given are for the first three or four months. After this time the food should be stronger if the child will bear it. Use more milk and cream and less water.

Is there any simple way in which I can tell if the milk I receive for baby's use is up to standard?

You can easily test the milk in the following manner. The specific gravity of dairy milk is 1.029. Its reaction is slightly acid. To determine the former, procure a "*lactometer*," which any druggist will get for you. To obtain the specific gravity, fill a beaker to such a point that it will float the instrument, and read the degree of density from the scale at a level with the surface of the milk. If it is above or below 1.029 it is either watered or reinforced by the addition of some foreign element.

To get the chemical reaction, use a piece of litmus paper, which your druggist will also furnish you with. If the reaction is normal the blue paper will not turn red.

To ascertain the proportion of cream in a specimen of milk, get a long, thin, white bottle and paste a narrow strip of paper on the outside of it. Now mark off this slip of paper into sixteen equal parts. Set the bottle aside for from twelve to twenty-four hours. During this time the cream will have risen to the top and will have a yellowish and thick look, very different from the rest of the milk in the bottle. This

layer of cream on top should be one-sixteenth part of the whole, or should occupy the upper sixteenth section of the strip of paper. The paper may be marked off into sections before being pasted on the bottle and the lower edge should come just to the bottom of the bottle, while the milk should come to the extreme top of the paper. If there is less than one part in sixteen of cream, the milk is either very poor or it has been skimmed.

From what you have said I infer that arrowroot, tapioca, and such farinaceous foods are not safe to give a young infant?

I am very glad to hear you make that remark, for it shows that you have read intelligently what I have already said.

All farinaceous food is treacherous and hence unsafe. Sometimes a young babe, if particularly strong in its digestive powers, will, for a time, take starchy foods, if thoroughly cooked, and apparently thrive on them, but soon a surfeit comes, something reduces the tone of the stomach, and then follows colic, constipation, diarrhœa, or, still worse, convulsions, and perhaps death. It is a great deal better to avoid trouble by heeding advice than it is to cure it.

How about condensed milk? What is it?

It is milk from which a greater part of the water has been evaporated.

Is there any difference between the canned condensed milk and the fresh condensed milk?

That which is canned contains a large amount of cane sugar, which is used in preserving it. In fact it is "preserved" milk.

How should it be diluted to make it like fresh cow's milk and adapted to an infant one or two months old?

The Anglo-Swiss condensed milk should be diluted sixteen or eighteen times with boiled or distilled water. The American condensed milk should be diluted from twelve to fourteen or fifteen parts.

How can I tell if I dilute it sufficiently?

Only by trial. If the baby thrives and the milk does not constipate, you may feel that all is well. If the baby has colic and is constipated, dilute the milk still more, either with water or one of the cereal foods, such as barley water or Mellin's Food.

Is condensed milk as good for a baby as fresh cow's milk?

Not by any means. It contains too much sugar, and after dilution it contains too little cream. It should never be used alone as a permanent food unless fresh cream is added to it, and then it is by no means an ideal food.

How much cream should be added to an ordinary bottle of diluted condensed milk?

Two spoonfuls of cream to one of condensed milk before dilution.

But, Doctor, I have seen some splendid-looking babies who were brought up on condensed milk?

So have I myself; but while such babies are fat, and big, and bright, they are neither strong nor hardy. They do not walk early, nor do they get good teeth early. They are generally fat and flabby, and often bow-legged and rickety.

But if traveling, I suppose it would be proper to use condensed milk?

Oh, certainly. As a temporary expedient condensed milk is a great blessing, but I do not regard it as an ideal or typical food upon which you can permanently rely.

How should artificial foods be given?

Always by means of a nursing bottle. The best bottle is a simple flat, white, glass bottle with a dark or natural colored nipple which will slip over the neck of the bottle. The patent nursing-bottles with a long tube extending into the bottle are too complicated and too difficult to keep clean. The simpler the outfit the better. Two bottles should be provided, with nipples to match, so that one set may be placed in a cleansing solution while the other is in use.

How should the bottles and nipples be cared for?

After nursing, the bottle and nipple should be placed in scalding water. After this they should be rinsed with cold water and placed in a receptacle filled with water and soda, or borax, in the proportion of one teaspoonful of either to the bottle of water. At least twice a day the bottles should be thoroughly washed out with a bottle brush, with hot soap-suds, and rinsed with boiling water.

In cleansing the bottle nipples is there any special method to be observed?

They should be boiled the same as the nursing bottles and all of the feeding utensils, in soda and water. The nipples should be turned inside out, scalded and cleaned with a tiny brush dedicated to the sole purpose, and afterward exposed to the warm and deodorizing sunshine for awhile.

Will a child have colic from sleeping with the rubber nipple in its mouth?

Such a practice is very objectionable in many ways. It will cause colic by sucking wind into the stomach, and besides, the child's sleep will not be restful so long as it has to keep the nipple from slipping out of its mouth.

Why is it necessary to observe such strict rules regarding the preparation of milk which is to be used for the baby? It surely did not use to be so.

It is only recently that science has demonstrated that in milk and cream which have begun to turn sour there is generated one of the most powerful poisons known to man. "There is no longer any mystery about the cases of ice-cream, cream-cake, and cheese poisoning which have from time to time terrorized communities; it was this deadly agent, developed in simple milk and its products, which wrought such mischief." In view of this fact it is not impossible that infant after infant, in countless numbers, may have been destroyed by this subtle poison, generated in their nursing bottles, because mothers and nurses were neglectful to keep them from becoming sour.

In all large cities the milk as ordinarily delivered is from twenty-four to thirty-six hours old, when chemical changes have already begun, and which, in summer time, may be well advanced before the milk reaches the nursery. Unless such milk is properly cared for at once it may readily cause sickness if not death.

CHAPTER IV.

DOMESTIC BABY FOODS.

You speak of barley water as a good medium with which to dilute cow's milk. Will you please tell me how this barley water is to be prepared, and the proportions to be used?

I will give you a formula which has served me admirably in my private practice, and which, I think, you will find well adapted to your wants.

Get from the grocer some hulled or "pearled" barley, and put two tablespoonfuls into four teacupfuls of water; boil this for at least an hour, or more if necessary, until it has boiled down to two teacupfuls. Strain carefully through a muslin or cotton cloth, so as to free it from the barley beard and any other irritating matter; then add a pinch of salt, and a small teaspoonful of granulated sugar. The barley water thus prepared should be added to good, fresh milk in the following proportions: For an infant under three months, use one-third milk, two-thirds barley water. For an infant three to six months, use one-half milk, one-half barley water. For an infant six to twelve months, use two-thirds milk, one-third barley water.

Oatmeal may be prepared in the same way as barley water, but it should be boiled at least two hours, and it should be doubly strained, as the hull is harder and sharper than that of barley, and the particles of it more liable to pass through the first straining.

Are there not still other domestic foods equally good, or better in some cases, which you can suggest?

I will give you the formula of a number of baby

foods, all of which are good, and some one of which ought to satisfy the most exacting appetite.

An excellent baby food — one of the best — can be made out of ordinary flour, and is called "flour ball." It is very similar to Imperial Granum. But as the transformation of starch into dextrine is only partially effected in its preparation, it is only adapted to infants who have half a dozen or more teeth, as explained elsewhere.

The formula for making it is as follows:

FLOUR BALL.

Take a pound of wheat flour — entire wheat flour is best — tie it up very tightly in a strong pudding bag, put it in a saucepan of water, and boil constantly for ten or twelve hours; then take it out of the water and hang it up to drip. When dry, put into the oven, bag and all, and bake for two hours. Then peel off the cloth from the ball and pulverize the hard-baked inner part by shaving or grating. The boiling and baking have changed the starch into dextrine, and it is now very nourishing and digestible. The yellowish-white powder obtained by the grating may be made into a paste with a little water, and added to the milk, or if milk disagrees, to cream and water. As a temporary food it may be given for a few days only, mixed with water. For a baby three to six months old, rub up a teaspoonful of this fine flour ball with a tablespoonful of milk, until a thin paste is made, and add this to sufficient scalded milk to fill a nursing bottle.

BREAD JELLY OR BREAD PAP.

For a delicate baby with a weak stomach a very satisfactory food can be made out of stale bread, that is, bread two or three days old. It is better if the bread is made from "seconds," or second-grade flour;

this is much richer in nutriment than the whiter and more costly flour.

To make the bread jelly a slice of this stale bread an inch thick is placed in a basin of cold water and allowed to soak for six or eight hours; it is then taken out and all the water squeezed out of it. This soaking takes the product of fermentation out of the bread, and clears it of all irritating matters. The pulp which remains after pressing is put into a pint of fresh cold water and gently (slowly) boiled for an hour and a half, which thoroughly cooks the starch, breaking up the starch atoms, and partly changing them into dextrine. The thick gruel or pulp thus made forms, when cold, a fine, smooth, jelly-like mass which, however, will keep sweet and good only a few hours. It should be freshly prepared night and morning. In feeding it, add a tablespoonful to six ounces of milk which has been properly diluted for the age of the baby. If milk disagrees, the bread jelly can be used in the above proportions with water alone instead of milk. A little salt or sugar may be added. This is a weak food, but it is still quite nourishing, and can often be taken when stronger foods disagree. Cream and water in the proportions of one part of cream to four parts of water may be mixed with it, and this is very useful for babies who can not digest milk on account of summer complaint. After a baby who is naturally weak, or who is sick with diarrhœa, has taken the bread jelly for a day or two, milk should be substituted for either the cream or water; it is not a food which has sufficient nourishment for a steady diet, and is suitable only as a stepping-stone to stronger food.

I have often heard that arrowroot was a very good food for infants. Is it not so?

Arrowroot, rice, tapioca, and sago are not suitable

foods for an infant under a year old; they consist almost entirely of starch and, as before explained, babies can not digest starch. These foods, no matter how cooked, are dangerous to very young infants, and should not be given until the child has at least six or eight teeth.

Is it proper to give babies, young babies, water to drink?

Eminently so. Babies often suffer with thirst and have no way with which to ask for drink except to cry, which is usually interpreted to mean hunger instead of thirst. Even a nursing baby needs water occasionally, pure water. The average baby suffers, if we only knew it, more from thirst than lack of food. Indeed most babies are overfed. If the child frets and wants something out of regular feeding hours, always offer him a cool drink of pure water, that is to say, water that is distilled, sterilized, or filtered. A fretful, wakeful baby will often go off into a quiet and restful sleep after a few sips of cool water.

CHAPTER V.

THE COMMERCIAL FOODS.

You have given me numerous recipes for domestic foods, but let me ask you if you regard foods thus prepared at home better than the commercial baby foods which I see advertised from day to day?

Did you ever make a loaf of bread? Then you know that unless the proportions of flour, water, yeast, etc., are exact, your bread will not be good. If the dough

is mixed all right, it may still be spoiled in the baking. If you attempt to mix and bake the bread yourself, and your attention is every now and again diverted by the baby, who, perhaps, needs your immediate attention at the same time the bread does, you are excusable if the loaf of bread is either sour or heavy or overbaked. You may be never so good a cook, but you can not be expected to do two things at once and do both equally well.

The same is true of domestic baby foods. If you could and would devote your whole time and attention to it, all would be well. You could, undoubtedly, make an ideal food from the recipes herein given. But under the circumstances in which most young mothers are placed, it is practically out of the question. It is still more so if the mother looks after the baby while the average nurse makes the food.

A friend drops in; or she has been up with the baby the previous night, and is tired and sleepy; the stove behaves badly, and she loses patience; any of many things may occur to spoil the baby's dinner, if its preparation requires more than a few minutes and a modicum of good common sense.

This is, I am aware, a very long prologue to the answer I am going to give to your question. I might have made it shorter, but I am of the opinion you would not have understood me as well.

My answer, then, is, that except in emergencies, or in case you have a special fancy for cooking, and plenty of time to devote to it, you will do well to let these domestic foods alone, and depend on the baby foods that are offered for sale everywhere, and which are prepared by persons who make it their sole business, and whose fortunes and reputations are at stake in the perfection of their output.

But there are so many of these commercial foods in the market, that I am at a loss how to make a selection, since all of them claim to be the best. Can you help me to make a choice?

Let me say in the beginning: I do not know of a single baby food that is advertised which is destitute of merit, nor, on the other hand, do I know of a single baby food that is equal to the milk of a healthy young woman, especially if she is the mother of the particular infant in whose behalf you make these inquiries.

Let me repeat again that mother's milk — human milk — is the only perfect food; the only food that contains all of the nutritious qualities required for the life, growth, and development of the human infant. All other foods are but imitations, substitutes — all are more or less unsatisfactory and problematical.

You say that all baby foods have some merit. How can I know which is best for my baby?

There is a difference in the baby foods, and, in order to help you, I must explain something about the materials used in them, and the principles according to which they are made.

And, in the first place, I must say to you that the manufacturers of baby foods, while recognizing that many young infants can not digest plain cow's milk, know that cow's milk is essential in infant feeding; therefore, all manufactured infants' foods are either products to be mixed and prepared for use with fresh cow's milk, or products in which cow's milk, dried or desiccated, is a constituent.

But you say there are many varieties of infants' foods; will you tell me more about them?

The infant foods may be conveniently divided into

three kinds, namely, farinaceous foods, Liebig foods, and dried milk foods.

What are "farinaceous" foods?

They are foods made from grain, and consist mainly of starch; you can always tell these foods, as they make a paste or pap with water, the starch being insoluble.

Will you mention some of these farinaceous foods?

There are many of them in the market: Imperial Granum, Ridge's Food, Hubbell's Prepared Wheat, etc. They consist principally of a starchy substance, which, in some, has been partially changed to dextrine, and in so far as this change is made, they are good foods. Imperial Granum is very much like "flour ball"; as it is a starchy food, however, it is not suitable for a young infant, but it is an excellent food after dentition has been established, and it is much used by invalids.

How is Imperial Granum prepared for use?

It has to be mixed with cow's milk. Two teaspoonfuls of the food are added to six ounces of water. This mixture is then cooked for ten minutes, after which an equal quantity of milk is added and then it is cooked for five minutes longer.

How are the Liebig foods different?

They are also made from grain, but the starch has all been changed into dextrine and malt sugar; they are soluble in water and never make a pap, but always a thin liquid.

What gave the name to these foods?

Baron Justus von Liebig, the celebrated German chemist, noticed that artificially fed infants were not properly nourished in most cases, and he thought out

the principle on which a food for an infant's use ought to be made, and then he devised the formula for making it. His directions were to take of wheat flour, ½ ounce; malted barley flour, ½ ounce; bicarbonate of potassa, 7 grains; water, 1 ounce; cow's milk, 5 ounces. Mix these together and cook them over a slow fire, stirring the mixture constantly until it becomes thin, then take from the fire and stir for five minutes; put it back on the fire, let it boil well and then strain through a muslin sieve. It will then be thin and watery, like mother's milk, because the starch in the flour has been changed into soluble dextrine and malt sugar and so has dissolved in the milk and water.

Why is it necessary to change the starch into dextrine and maltose?

Because starch as starch does not enter into the human blood, but when it has been changed into a soluble form it can be immediately absorbed. Before this change is made it is not possible for the starch to be absorbed and so take part in the vital processes.

But adults eat starch freely?

Yes, certainly they do. When a healthy adult eats starch, the digestive fluids change it into dextrine and malt sugar within the body, just as malt changes it outside the body. But in infants this power of changing starch is not acquired until after they have cut their teeth.

You told me a little while ago that Liebig thought out the correct principle for making an infant food; what is this principle?

It had long been known that cow's milk, when it enters the baby's stomach, forms a hard, tough, indigestible mass, but that mother's milk separates into

light, flaky particles. Now the cow's milk ought to be changed so that it will act in the baby's stomach like mother's milk, and when it is prepared according to this principle it will do so.

Is this all that should be done to cow's milk?

No; while cow's milk and mother's milk have the same constituents, these constituents are not in the same proportions. In this formula it is sought to remedy this inequality and to make the food in every way like mother's milk.

Was this really accomplished?

Yes. This food, when properly made, is as easily digested as mother's milk, and it has the same proportions of the same constituents. It does not contain anything which a baby can not digest. It is a most admirable food if properly made.

Can I make it myself?

Yes, but it requires much care and considerable skill; malted barley, too, can rarely be procured outside of the largest cities.

How, then, is it possible for me to use this food?

The best way for you is to buy a food — Mellin's Food, for instance, which is made according to Liebig's formula.

How is Mellin's Food made?

This food is made by macerating wheat flour, barley malt, and bicarbonate of potassa in water until the starch of the flour is changed into dextrine and malt sugar; the liquid is then strained and evaporated to dryness. When you wish to feed your baby dissolve some of this dry powder in water, mix it with milk, and you will have just the food which Liebig prepared,

and this without any trouble and with no danger of spoiling it in the preparation.

Then you consider Mellin's to be a really good food for my baby?

In an experience of more than thirty years this food has been my stand-by, and seems to me to be the most scientifically prepared and to be the most widely successful of all the baby foods with which I am acquainted.

Please tell me how I ought to prepare the food for my baby.

If your baby is a month old or less, dissolve one level tablespoonful of Mellin's Food in twenty-four tablespoonfuls of hot water by stirring, and add to eight tablespoonfuls of cow's milk. As this will make enough for several feedings, you must place it on the ice or where it will keep cold. When you wish to feed the baby, stir thoroughly, pour out about four tablespoonfuls or more, and heat it to the proper temperature; taste it yourself, and if it is warm enough for you it will be right for the baby.

What kind of milk ought I to use?

Get fresh milk of good quality from a herd of cows; this is better than one cow's milk, as I have already stated. It is better to use from the top half of milk that has been set away for a little time in a tall pitcher placed on the ice or in a cool place.

What shall I do if baby has any trouble with his stomach?

If the milk is not fully digested by the baby, curd will be thrown up or appear in the passages, and then the amount of milk must be reduced, with a corresponding increase in the amount of water used. If the bowels

are too loose or the baby is delicate, it will be well to scald the milk.

You say these proportions are for a baby a month old. What shall I do as my baby grows older?

You must gradually increase the amounts of milk and Mellin's Food from time to time, as the baby's growth requires.

How shall I know when to make the increase?

The baby will indicate when his appetite is not satisfied.

Can I regulate the baby's bowels?

Yes; by changing the relative quantities of Mellin's Food and milk the baby's bowels can ordinarily be regulated to a nicety by observing this rule: Scald the milk and increase the proportion of it to overcome looseness; use more Mellin's Food with the milk for constipation.

Can I use condensed milk in place of fresh cow's milk?

When fresh milk of good quality can be obtained it is always best to use it, but it is sometimes necessary to use condensed milk in large cities in summer, when the fresh milk supply can not be depended upon, or when traveling.

How must I mix the condensed milk?

The condensed milk must be reduced, as heretofore directed, by dissolving it in water; one level tablespoonful of condensed milk to the pint of water will do at first, the condensed milk to be gradually increased as the baby requires richer food.

Is cow's milk, when mixed with a baby food, made easier of digestion?

It is true that baby foods separate the milk in a

mechanical way into smaller particles in the stomach. But surely it can not be advisable to accomplish this desirable object by adding to the milk a substance (starch) which, as I have already told you, the baby can not digest. In Liebig's Food the milk is made to form into light, small particles by the use of digestible substances which help to nourish the baby. It has also been proved that this food actually assists in the digestion of the milk.

Would you recommend peptonizing the baby's milk?

Predigested (peptonized) milk is good in an emergency, but experience has shown that it ought not to be used for any length of time; when such food is used, the stomach has no work to do, and will in time lose much of its power to digest ordinary food. This is equally true of infants and adults.

The foods you have described are prepared with milk; are there not some foods which are prepared by simply mixing water with them?

Yes; these foods are the dried milk foods, like Nestle's Food, and Malted Milk, and they are prepared by mixing with water only.

Does Nestle's Food contain anything besides the dried milk?

Yes; besides the dried milk it contains large amounts of starch and cane sugar, which I have already explained are objectionable for young infants. It is prepared by mixing a tablespoonful of the food with a little cold water until perfectly smooth, and then boiling in a saucepan with half a pint of water for a few minutes, stirring the mixture constantly until it thickens and a milky froth appears on the top.

Is Malted Milk different?

This is also a dried milk food, but it contains no starch, the starchy matters having been changed into dextrine and maltose.

Is it not a good food?

It is a popular food, but its faults are a great deficiency of fat, and the fact that the proportion of milk and malt sugar are unalterable, while intelligent feeding demands that these proportions should be varied to suit the requirements of the child's ever-varying condition.

Can not I overcome this objection by varying the quantity of water I mix with the food?

No; because using more or less water will make no change in the relative proportions of milk and malt sugar, as you will see if you think a minute.

Are these the only objections to dried milk foods?

No; there are also two serious objections which are common to all dried milk foods. I can best explain by a little illustration. If you dry an apple and then soak it in water, it will swell out again, but it will always be dried apple; you can not change it back to a good, fresh apple. In the same way, when milk has been dried and then water added, it forms a milky-looking fluid, but it is still dried milk and water, and not fresh milk. You know that dried apples are not so good a food as fresh apples are, and you will understand that dried milk can never be so good for a baby as fresh milk. Then all dried milk foods are deficient in fat, as the fat or butter is removed in the process of manufacture. One manufacturer of an infant food has tried to supply this lack of fat by using cocoa butter in making his soluble food.

What happens to a baby if his food does not contain enough fat?

The teeth will probably come late, the bones are apt to be soft and are easily bent; the baby will walk late and perspire readily about the head and neck. If you will use fresh cow's milk of good quality, prepared with Mellin's Food, you will have no trouble of this kind.

How soon may a baby be allowed to eat potatoes and fruit?

Neither is permissible under two years of age, and then not at the general or family table. If potatoes are given at this age they should be carefully selected and thoroughly baked; never mashed, boiled, or fried. Such fruits as baked apple, ripe peaches, or plum juice may be given tentatively, but berries with seeds, and all acid fruits, are liable to cause trouble. Besides potatoes, a healthy infant of two years may be allowed to have fresh small peas, asparagus tops, young string beans, stewed celery, boiled onions, but only if they are young and tender and thoroughly cooked.

When will it be safe or advisable to add rice, hominy, and such articles to the baby's diet?

Not until the major part of the teeth are through, at the age of, say, twenty or twenty-four months.

Are bananas allowable to a young infant?

It is impossible to get fresh, ripe bananas in our northern markets. Those we get are picked green, and when offered for sale are generally either unripe or overripe — they are hence not safe to give a young infant. After the child is two or three years of age they may be given, if well developed and not at all decayed.

How often should a bottle-fed baby be given the bottle during the first month?

The same intervals should be observed as in breast-fed children; that is to say, every two hours during the day and twice during the night. This means ten feedings during twenty-four hours. This rule should be strictly adhered to, for regularity in feeding is absolutely essential to health.

Why should not a child be fed more frequently?

Because it takes the stomach of an infant two months old at least two hours to digest a meal and regain its power to digest another. The stomach must have some rest. If the meals follow each other too closely, indigestion is certain to be the result.

Should a baby be wakened to be nursed or fed if it is sleeping quietly?

Only during the first few days; after this, regular feeding will soon establish a regular habit of awakening for food.

What symptoms are present when a baby is overfed?

The food is vomited very soon after the bottle is taken and the stools show the presence of undigested particles.

What signs indicate that a baby is not getting nourishment enough?

The bottle is emptied quickly and ravenously. The child cries when the bottle is taken away, sucks violently at his fingers, and is restless and unhappy until he gets the bottle again.

If a considerable portion of the meal is vomited, what is to be done?

Omit the next bottle altogether or give plain water, hot or cold, instead. At the second feeding make the food much weaker and give less of it.

How soon is anything besides breast milk or the bottle to be given the baby?

This will depend upon the baby's development. As soon as six or eight teeth are present you may begin giving a little meat juice, or a small portion of a soft-boiled egg. A crust of stale bread will be an enjoyable addition to the infant's menu.

At what age should a child ordinarily be weaned from the bottle?

Not later than eighteen or twenty months, and earlier if the baby is robust and summer heat is not just coming on.

CHAPTER VI.

ACCESSORY FOODS.

Does it not sometimes happen that none of the standard or regular foods agree, and yet some strange or alien food will just meet the case in hand?

This very thing does occasionally occur, and I will give you the formula for a number of these foods which may sometimes serve in an emergency, and which, for the want of a better term, I shall designate *Accessory Foods*.

WHEY.—When the curd of milk passes through the bowels undigested, as indicated by white flakes in the baby's stools, it is often well to eliminate the curd temporarily and give the whey of the milk, with or without cream.

To make whey, add one teaspoonful of essence of pepsin or liquid pepsin, or two teaspoonfuls of liquid rennet, to one-half pint of warm milk. After it stiffens, beat up the curd with a fork. Strain off the whey.

How is the whey to be used?

It may be added to barley water, half and half, or it may be added to cream and sugar.

Cream and Whey Mixture.— Cream, one ounce; whey, two ounces; warm water, two ounces; milk sugar, one teaspoonful.

This is very useful in cases of delicate stomach, when stronger foods are rejected. It should be used, however, only temporarily. Such foods as this have proven serviceable in queer cases, wherein other and theoretically better foods have failed.

Albumen Water.— The raw white of one egg is dissolved in a teacupful of cold water. It may be sweetened, if desired. This is useful as a temporary nourishment or as a substitute for milk.

In some cases the albumen water and barley water may be advantageously mixed, using the following formula: Barley water, ten ounces; the white of one egg; white sugar, one teaspoonful.

Gum Arabic Water.— Gum arabic, one heaping teaspoonful; boiling water, one pint (sixteen ounces). Dissolve; sweeten. This is sometimes useful temporarily in place of barley water.

Doctor Meigs' Gelatin Food.— The author's formula is as follows: Dissolve a small quantity of prepared gelatin or Russian isinglass in water, to which is added milk, cream, and a little arrowroot, or any other farinaceous substance that may be preferred. A scruple of the gelatin (or a piece, two inches square, of the flat cake in which it is sold) is soaked for a short time in cold water, and then boiled in half a pint of water until it dissolves — about ten or fifteen minutes. To this is added, with constant stirring, and just at the termination of boiling, the milk and arrowroot, the latter being previously mixed into a paste, with

a little cold water. After the addition of the milk and arrowroot, and just before the removal from the fire, the cream is poured in, and a moderate quantity of loaf sugar added. The proportions of milk, cream, and arrowroot must depend on the age and digestive power of the child. For a healthy infant within the month, we usually direct from three to four ounces of milk, half an ounce to an ounce of cream, and a teaspoonful of arrowroot to a half-pint of water. For older children, the quantity of milk and cream should be gradually increased to a half or two-thirds milk, and from one to two ounces of cream. We seldom increase the quantity of gelatin or arrowroot.

This food is especially recommended for infants suffering with diarrhœa, colic, and vomiting, and who can not retain milk and water or cream and water.

How is raw-meat juice prepared?

Babies can not live on a purely vegetable diet. They must have animal food in some form. Nursing babies get this in the mother's milk, which is, as has been repeatedly said, the only perfect food.

Next to this comes cow's milk, properly treated; but when this is vomited up or not digested, sometimes the juice of raw beef will take its place. In summer complaint and cholera infantum this is often very useful.

Raw-Meat Juice.— To prepare raw-meat juice, have your butcher grind a pound of round of beef, just as for making Hamburger steak. Place this ground beef over the fire in a skillet or pan for just a few moments, until heated through. Do not add any water. Then squeeze out the juice through a lemon squeezer. Season with a little salt, and give a little at a time, according to the age and strength of the baby. With very young babies only a few drops should be given at once.

What do you think of koumis?

Koumis is another food which is oftentimes of great value when the stomach is very delicate. The formula is too intricate for domestic use. It should be prepared with great care and is obtainable in all large cities.

CHEVASSE'S MILK FOOD.— New milk and warm water, equal parts; table salt, a small pinch; lump sugar, a sufficient quantity to slightly sweeten the mixture.

How is oatmeal best prepared?

MILK AND OATMEAL.—Oatmeal, rolled or finely powdered, one teaspoonful; water, two tablespoonfuls; milk, five tablespoonfuls; cream, one tablespoonful; sugar of milk, one teaspoonful. Heat the water until nearly but not quite boiling. Stir in the oatmeal slowly until a smooth, white mixture is obtained; then add the other ingredients. This is suitable for an infant three or four months old and is useful in cases of constipation.

What is the best method of preparing beef tea?

There are many ways of preparing beef tea. The old process of making beef tea in a bottle or with sulphuric acid is antiquated. Experience has proven that the quicker and simpler methods are the best. It should be understood, however, that beef teas, however made, contain but a trifling amount of nutriment. While more palatable than some of the ready-made beef extracts on the market, they have really but little nutritive value.

One of the best recipes for making domestic beef tea is the following:

To one pound of lean beef minced or finely chopped, add one pint of water. Stir and let stand in an earthen vessel for an hour; strain and let cool. When about to use, remove all fat by means of a spoon or blotting paper; warm and serve with salt.

Beef Tea in Fifteen Minutes.—Doctor Starr gives the following recipe for making beef tea quickly: Scrape one pound of lean beef into fibers, and after placing it in a clean saucepan, pour on half a pint of boiling water; then cover the saucepan closely, and place it by the side of the fire for ten minutes; next strain into a teacup; place this in a basin of ice-cold water and remove all fat from the surface of the liquid, first with a spoon and finally with a piece of stale bread or blotting paper; then pour into a warm cup and heat gently to the temperature for drinking.

Will you give me a good recipe for chicken broth?

Chicken Broth.—A small chicken or half a large fowl, thoroughly cleaned, and with all the skin and fat removed, is to be chopped, bones and all, into small pieces; put these, with a small quantity of salt, into a saucepan and add a quart of boiling water; cover closely and simmer over a slow fire for two hours; after removing allow to stand, still covered, for an hour, and strain through a sieve.

Mutton Broth.—Lean loin of mutton, one pound; water, three pints; boil gently until very tender, adding a little salt; strain into a basin, and, when cool, skim off all the fat. Warm when served.

When is rectal feeding useful?

In cases of marasmus (wasting) or great exhaustion it is sometimes necessary to use the rectum temporarily for purposes of nutrition. Peptonized milk or meat extracts, and sometimes gluten suppositories, are used in this way. But any condition rendering such an expedient necessary would require the services of an experienced and skillful physician, so that explicit directions are not deemed necessary here. It may be said, however, that a small bulb syringe with a short,

straight nozzle, is the proper thing to use, and the rectum should always be prepared for the nutritive enemata by being first washed out with an enema of plain warm water. Only a small quantity of nutriment should be used at a time — for an infant under a year not over one tablespoonful, and for a child under two years of age not to exceed two tablespoonfuls. The enemata should not be given oftener than every four hours.

Does a baby tire of one food and require a frequent change of diet like an adult?

No. A young baby has no fine sense of taste whatever. It feels but the one desire for food, irrespective of fine shades of taste, but very soon the taste develops, and after that the food which agrees should be adhered to. There need be no fear of that satiety which older people feel from having the same meal served day after day. Use the food that agrees and stick to it, increasing its strength from time to time, as the child grows older, by adding more milk or other animal food and less vegetable until after the babe is weaned.

How early is it wise to bring a child from the nursery to the general table?

Not until he is four or five years old. There are many things on a family table which are quite proper for adults to eat which can not be indulged in by infants with safety — cheese, pie, pudding, tea, and coffee, to say nothing of wines and cordials. It can not be too strongly impressed on young parents that a baby needs "baby food," and not such food as is eaten by the father and mother. Young parents are usually proud of the baby's first appearance at the table, and often boast that the prattling infant "eats just like a man." They too often carry the precocious infant to

the grave, little thinking that eating "like a man" was the real cause of their sorrow. An infant under two years of age should never be brought to the family table. You would not seat your baby alongside of an open fire, and thus tempt it to put its hand into the bright and attractive blaze. No more should you tempt it, ignorant and inquisitive as it is, by bringing it to the table, where it will see others eating food that would be the same as poison to its delicate stomach. Teach every child that there are foods grown people may eat which will make it sick, and perhaps cause death, if it is allowed to eat them. The education of the appetite should begin at the cradle and be kept up during the periods of infancy and childhood. A riotous and ruinous appetite is often formed in the first year of life. Because a baby or child wants a thing this is no reason why it should have it. As a parent you must exercise judgment and discretion; a child has neither. You want your child to be a strong man or woman when grown up — to be mentally, morally, and physically healthy. Remember that much depends upon its food during the first year or two of life, and on the restraint which is put upon its appetite.

Have you anything further to suggest about baby feeding?

Let me recapitulate some of the things I have said about infant feeding, under the heading:

GENERAL RULES FOR FEEDING.

1. If a child is disinclined to eat at his regular mealtime he should not be forced or urged to do so.

2. Never try to tempt the appetite by giving knick-knacks or indigestible foods when ordinary simple food is refused.

3. Food should not be allowed between meals when it is declined at the regular meal-time.

4. If a child refuses food altogether, or takes less than usual, the food should be examined to see if it is all right. Then the mouth must be inspected to see if it is sore. If neither of these things is the cause, the food should be taken away and not offered again until the next feeding time comes.

5. In any acute illness the amount of food should be much reduced and the food made more delicate, *i.e.*, thinner, than usual.

6. In very hot weather less food should be given, especially less solid food, and more water.

7. The cereal foods should never be given for any considerable length of time, except in combination with milk.

8. When the cereal foods are prepared by domestic processes, they should be thoroughly cooked until the starch they contain is more or less transformed into maltose.

9. All artificial infant foods should be given at the body temperature (100° F.) and through a clean nursing bottle.

10. Regularity in feeding is every way essential to health.

11. As soon as an infant has half a dozen teeth its diet should be liberalized, *i. e.*, varied so as to stimulate the development of the peptic glands and increase the digestive powers.

12. Remember that infants require water as much as they need food, and oftentimes suffer for the want of the former more than from the need of the latter.

But suppose a baby refuses the food prescribed and will not take it, what is one to do?

Wait until the sense of hunger comes and all trouble

about his taking the food will vanish. A strong-willed baby will sometimes make an obstinate fight, but it would be folly, and it might be dangerous, to yield to his caprice.

PART III.

THE BABY.

"*There are smiles and tears in the mother's eyes,*
For her new-born babe beside her lies.
Oh! heaven of bliss! when the heart o'erflows
With the rapture a mother only knows."

—Henry Ware, Jr.

"*A sweet new blossom of humanity,*
Fresh fallen from God's own home, to flower on earth."

—Massey.

CHAPTER I.

SIGNS OF HEALTH.

Will you give me some general hints by which I may judge if my child is healthy or not?

The signs of health are generally well pronounced and the symptoms of illness are usually unmistakable to one who is accustomed to the behavior of infants.

A new-born babe is often somewhat restless during the first few days until the secretion of milk in the mother's breasts is sufficient to satisfy its needs for food. After this a well baby ought to sleep most of the time during the first month (eighteen to twenty hours out of twenty-four). It should stay awake only long enough to nurse and be washed and dressed, and then drop off again into quiet and restful sleep. It should be turned over occasionally in its crib or in bed, by the nurse, so that it may not be restless from prolonged lying.

On which side should a baby naturally lie?

On the right side, because otherwise the liver, which is a very large and heavy organ, will press upon the stomach and make the baby uncomfortable.

What is the color of a healthy new-born babe?

The normal color is decidedly red or reddish-brown at first, but after the first week the color fades to a delicate pink or light olive. If the color of the skin is mottled or bluish, the babe is either cold or ill. A warm bath or rubbing the skin should develop a deepening glow over the whole surface.

Is the color of the eyes at birth retained, or does it change?

The color of the eyes at birth is a very indefinite one and is a sort of blue in all babies. In the course of six or eight weeks the color gradually changes to that which is permanent, and may be lighter or darker than when first born.

Does a healthy baby cry?

The very first act of a well-born baby is to cry, and until it learns to talk it—

"*Has no language but a cry.*"

Is crying ever beneficial?

Certainly. It expands the lungs and helps the circulation of the blood. It is quite necessary that a baby should cry more or less, in order to keep the lungs well expanded.

Then crying does not always indicate illness?

Far from it. Every well organized baby should cry at least fifteen or thirty minutes every day. If it does not cry when first born *spank it*, and immerse it alternately in hot and then in cold water, finally giving it a dip into the hot water and then quickly wrapping it in warm blankets.

What is the character of this healthy cry?

It is loud and strong, and very like a scream. Such a cry need not worry you. It is the baby's natural exercise. Without it he would be no better than a doll baby.

What is the cry of temper?

It is strong, loud, and violent, and is usually accompanied by kicking and stiffening of the body.

What is the cry of hunger?

It is usually a continuous, fretful cry, not strong and lusty; and is accompanied, if the child is strong enough, by reaching after something.

What is the cry induced by indulgence or from habit?

This cry is often heard, even in very young infants, who have been over-indulged and have had too much attention paid to their whims and caprices. Young infants quickly learn that a cry attracts attention, and if yielded to, it speedily forms a bad habit. It cries to be rocked or carried about, for a bottle to suck, or for the continuance of any bad habit it may have formed.

How can one be sure that a child is crying from temper or to be indulged?

Under these circumstances it stops immediately when it gets what it wants, and cries again when it is withdrawn or if it is withheld.

How should a child be managed that behaves this way?

It should simply be allowed to cry it out. The more attention is paid to such a cry the worse it will be for all parties concerned.

Is there not danger that rupture may be caused from crying?

Not in young infants if otherwise healthy, and if the belly-band is properly applied. After the youngster is a year old there is absolutely no such danger.

What are the normal respirations of an infant?

The number and character of the respirations in infancy vary with the age and the condition of the infant. During sleep the respiration is quiet and comparatively regular, but even then not as regular and rhythmical as that of an adult.

During waking hours it exhibits a very great irregularity, which is characteristic up to several years of age. It is most marked during the first year, but is more or less apparent all through childhood. A child will often hold its breath for a moment, apparently without cause and surely without consequence. It is involuntary. A number of quick breaths may occur, followed by a number of slow ones. This is one of the physiological peculiarities of infancy, and no weight need be attached to it. It is technically known as *puerile breathing*. Up to the age of puberty the respiration in children is largely abdominal, in girls as well as boys.

The heaving movement is seen almost entirely in the abdomen, while the chest remains comparatively still. After girls reach the age of twelve or fifteen the character of their breathing changes and becomes like that of mature women — more from the chest than abdominal.

NUMBER OF RESPIRATIONS PER MINUTE.

During first week, 30 to 50; average 40.
During rest of first year, 25 to 35; average 30.
One to two years, average 28.
Two to four years, average 25.
Four to fifteen years, average 22.
Adult life, average 17.

During sleep the respirations are considerably less than when awake. The slightest excitement increases both pulse and respirations.

What is the normal rapidity of the pulse during infancy?

The pulse, like the breathing, is much more rapid than at maturity, and is also much more variable. The following table shows the normal average pulse-rate at different ages:

NUMBER OF AVERAGE PULSE-BEATS PER MINUTE.

At birth, 130 to 150.
First month, 120 to 140.
One to six months, about 130.
Six months to one year, about 120.
One to two years, about 115.
Two to four years, about 110.
Six years, about 100.
Eight years, about 88.
Fourteen years, about 87.
Adult life, average 72.

How and where is the pulse best taken?

With adults it is best taken at the wrist, on the thumb side, where the radial artery is quite near the surface. In very young infants it is best taken on the side of the neck, where the carotid artery can, in thin babies, be seen to pulsate; or it may be taken by placing the ear over the heart itself. Another very good method is to watch the rise and fall of the fontanelle.

What is the normal temperature of a healthy babe at birth?

About 100° F. It is especially important for every mother to make herself familiar with the normal and abnormal temperature, and this can only be done by using a tested *clinical thermometer*. No trust should be placed in the sense of touch. The baby's feet and hands may be cold while a high fever is raging within. The best clinical thermometers are self-registering, that is, the top of the column of mercury which indicates the temperature will remain at the highest point attained after it has been removed from the child. It should be allowed to remain *in situ* for at least three minutes *by the watch.*

The best instrument is of glass and the Fahrenheit scale is cut in the glass tube, dividing it into degrees and fifths of a degree. The normal temperature of the body is indicated by an arrow-point, 98.5°.

Where should the temperature be taken?

With young infants the thermometer should always be used in the rectum. Dip the mercury end, after shaking down the register, into some vaseline and insert it until the instrument is half buried in the bowel and hold it there for at least three minutes. This may be done while the baby is lying on the bed or across the lap on its stomach. The procedure is simple, painless, and free from danger.

After use, always wash the thermometer with soap and *cold* water, and be sure to shake down the register, *i. e.*, the column of mercury in the tube, before replacing it in the hard-rubber holder.

Is the temperature of the body in health uniform and invariable?

There is a regular variation during the twenty-four hours, which is more marked in infants than in adults. The temperature rises slightly after a full meal, and there is a slight rise after an unusual excitement or a hearty cry. The normal temperature is highest during the forenoon and lowest during the night. There may be a difference of one, two, or even three degrees between the readings at different times of the day. If the thermometer registers a temperature of 97.5° to 99° in the evening or night, and 98° or 99.5° in the morning, this may be considered normal. Unless the thermometer registers a temperature above 100° we do not consider it abnormal. All fevers and serious illnesses have a temperature above or below the figure mentioned.

Are there other signs of health which you have not as yet referred to, but which may indicate that a baby is doing well?

I have already spoken of the baby's weight and the significance of a daily gain. In a healthy infant the body and limbs are rounded and plump; the skin is soft and of a rosy hue. The countenance when in repose in earliest infancy is without expression, save that of perfect peace and satisfaction. There is an absence of lines; the surface is cool; the abdomen is full and soft, and pressure upon it apparently causes pleasure rather than pain. The mouth is always moist, and the lips are pink and often protruding. The sleep of the new-born is quiet and profound. During its waking hours, after say the first month or two, it is inclined to as much activity as its limited powers and curtailed environments will permit. It exhibits a wonderful springiness in all its movements, and seems to be an embodiment of perpetual motion.

Do very young infants shed tears?

Tears are unusual before the child has reached the age of three months. Even older children do not weep if greatly emaciated or very ill. When the tears have been suppressed for a time their reappearance is a sign of good omen.

Are there still other signs of good health which you have not yet mentioned?

In a healthy infant all of the bodily functions are performed regularly and painlessly. There is no starting or jumping in sleep, no sensible perspiration. In a word, the baby is comfortable and happy, and if it bears any grudge against anybody for bringing it into this "vale of tears," it does not give outward evidence of any such feeling.

THE URINE.

What is the color of the urine in a new-born infant?

The urine of a young and healthy infant has scarcely any color. It is almost like clear water in appearance, has very little odor, and leaves no stain upon the diaper.

How often should the urine be voided?

This is difficult to answer, because babies differ so much at the same age and differ so widely at different ages. The food has much to do with the frequency of urinating, as well as the quantity passed in twenty-four hours. The temperature of the air is also to be taken into consideration. In cool weather the quantity is greater. In warm or hot weather the quantity is less, because much of the excess of moisture in the body passes off in sensible or insensible perspiration. The average frequency of urination of a young baby is probably from six to ten times daily, but if everything else is normal an evacuation of urine every hour need not cause any feeling of uneasiness in the mind of parent or nurse. As age increases and better control of the bladder is acquired, the frequency diminishes to about six or eight times a day, more or less.

What is the normal amount of urine passed by a young babe?

The amount is subject to much variation, but it may be approximately estimated at from eight to twelve ounces. In cool weather it will be more and in hot weather less.

CHAPTER II.

DEVELOPMENT.

Isn't it wonderful, when you think,
How the creeping grasses grow,
High on the mountain's rocky brink,
In the valleys down below?
* * * * * * * *

Isn't it wonderful, when you think,
How a little seed asleep,
Out of the earth new life will drink,
And carefully upward creep?
* * * * * * * *

Isn't it wonderful, when you think,
How the wild bird sings his song,
Weaving melodies, link by link,
The whole sweet summer long?
* * * * * * * *

Isn't it wonderful, when you think,
How a little baby grows,
From his big, round eyes, that wink and blink,
Down to his tiny toes?
* * * * * * * *

—Julian S. Cutler.

What do I understand you to mean when you speak of the "period of infancy"?

"Infancy," when used by physicians, is generally understood to mean from birth until all the first set of teeth has come, which is usually accomplished by the age of two and one-half years. *Childhood*, as distinguished from infancy, extends from the completion of

the first dentition until the age of puberty, which, in this country, is about twelve or fifteen years. In the present volume we shall use the terms infant and baby as synonymous, and endeavor to answer all the questions appertaining to this early period which an anxious mother would care to ask her trusted medical adviser. In another volume we may consider with equal care and fidelity those questions which relate to childhood, and which concern the boy and the girl during adolescence. At present we are only interested in knowing all about the BABY—from birth until he has all his teeth.

Let me ask you first, then, what is the average weight of a new-born infant?

About seven pounds for boys, while girls weigh, on an average, a little less, or about six and three-quarters or six and one-half pounds. There is considerable variation, however, in the weight of a healthy infant born at full term. The normal limits of variation are probably between five or five and one-half and twelve pounds. Some children are very thin when born, and if healthy and of proper proportions, very soon become plump, and weigh as much as their more favored brothers and sisters.

What is the usual gain in weight after birth?

A new-born baby generally loses a few ounces in weight during its first week, after which it ought to gain steadily. It is a noticeable fact, however, that the gain is not uniform. During the last three weeks of the first month the gain is, on an average, something less than an ounce a day. During the second month it is a full ounce a day, and in the third and fourth months about five ounces a week or about three-fourths of an ounce a day. By the time the infant has reached four

months of age it has doubled its original weight of seven pounds. After this it gains at the rate of a pound a month until it is twelve months old, so that at the end of the first year it has trebled its original weight.

Tell me also, if you please, what is the average length of a healthy new-born infant?

About nineteen inches, and by the end of the first month it ought to add to this length about one and one-half inches. After the first month the gain in height averages something less than an inch a month, so that at the age of one year the measurement is about twenty-seven or perhaps twenty-eight inches.

Has sickness any effect on development?

Yes, a very great effect. Oftentimes a slight illness, if prolonged, retards the growth, and a slight diarrhœa will quickly put a stop to all gain in weight. Sometimes loss of weight is the only apparent sign that the baby is not thriving. For this reason the child ought to be weighed frequently — every week at first, and later every two or three weeks. This should never be neglected, for, however well and happy the baby may seem, if it is not putting on its normal addition of weight, there is something wrong. While the average amount of gain is not absolute in all cases, some gain in weight is essential to health and normal development, and a more or less complete cessation of gain is highly significant of *trouble*. Systematic weighing is particularly important when some change of diet is being made, for in this way we can quickly judge whether the new food is agreeing or not — whether it is sufficiently nutritious in quality or great enough in quantity. In a general way it may be said that a baby which gains half an ounce a day during its first month

or two is doing fairly well, but a child doing thoroughly well gains double or treble this amount.

Are there any other points to be mentioned which indicate proper progress in the infant's body?

The chest affords another test of development which should not be lost sight of. Taking an infant weighing seven pounds and measuring nineteen and one-half inches at birth, the girth of the chest in a well-developed infant should be a little over thirteen inches. By the fourth month it should be increased to fifteen inches, and by the sixth month to sixteen inches. By the twelfth the measurement should be seventeen inches or thereabouts, and by the fifth year to twenty-one inches.

The changes which take place in the stature of the child have been so admirably illustrated by Leroy M. Yale, M. D., in "Babyhood" (Vol. II, page 311), that we copy not only his illustration, but his remarks thereon:

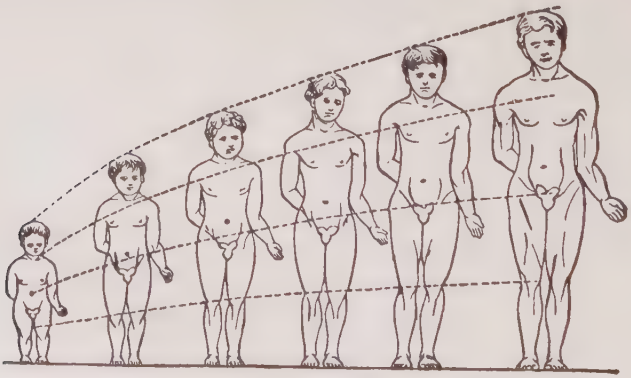


DIAGRAM SHOWING RELATIVE STATURE FROM 1 TO 22 YEARS OF AGE.

"The six figures represent the average relative stature of males of the ages of one, five, nine, thir-

teen, seventeen, and twenty-two years. It will be noticed that the figures all stand on a level plain. The tops of the heads are connected by a dotted line, and the height of each figure is divided into four equal parts, the points of division being connected with the corresponding ones in each figure. If the rate of growth were uniform, the dotted lines connecting the heads would, of course, be straight if a child for every year were included in the rank. But in the earlier years the growth is much more rapid than it is later, and hence the line is a curve, rising quite suddenly at the first, and becoming flatter toward the end of growth. It is to be understood that these are all *averages* — including, but not showing, the extremes of slowness and rapidity of growth as well as fitfulness of growth. The diagram also shows the different development of different parts of the person. The head, for instance, in the child of one year, is nearly one-fourth of the whole height; that of the adult is about two-thirteenths, or, to use the phrase of artists, the little child is not much more than four heads high, while the adult of twenty-two is about six and one-half heads high; and even this is a much larger head than the average adult has. Notice that the third dotted line, marking one-half of the total height, crosses the navel in the infant, while in the adult the half height mark is but little above the juncture of the legs and the body, which shows how much larger, proportionately, the body of an infant is than an adult's. If this same line be followed, it will be noticed that it keeps well up in the abdomen until after the age of nine. Between that age and puberty the growth of the lower extremities is usually very rapid, and the well-known 'shooting up' of boys and girls takes place, the whole person growing, but the lower part in particular. Similar

changes of location will be noticed by following the quarter lines, but the changes are not so abrupt."

Does the development of the head and chest progress correspondingly to that of the height?

Here is a table showing the circumference of head and chest at different ages*:

	HEAD.		CHEST.	
Birth	13¾	inches	13	inches.
Six months	16¾	"	15½	"
One year	18	"	17	"
Two years	18½	"	17¾	"
Three years	19	"	19¾	"
Six years	19½	"	20¾	"
Twelve years	20	"	23½	"
Adult life	21½	"	30	"

It is noticeable how much more rapid the growth of the chest is when compared with that of the head.

What is the meaning of that soft spot in the head of an infant?

There are two soft spots in every infant's head at birth. The larger one is in front, just above the hair line of the forehead, and is called the anterior fontanelle; the smaller is in the back part of the head, just above the base of the skull, and is called the posterior fontanelle. The anterior fontanelle is often a good guide to the development of the bony structure of the infant. At six months of age the fontanelle is somewhat larger than at birth, because the brain expands faster than bony matter is deposited around the edges of the opening in the skull bones. But after this age the deposit of bone goes on more rapidly than the growth of the brain substance, and by the age of six-

* "The Care of the Baby," by J. P. Crozer Griffith, M. D., page 57.

teen or eighteen months the opening should be entirely closed. If it is not closed by the time the infant is two years old you may be sure there is something wrong with the child's nutrition. (See the paragraph on rickets.)

Has the anterior fontanelle any other significance?

Yes, to one who is experienced in the symptoms of illness in infancy the fontanelle shows, or may show, several things. If it be so depressed that the skin covering it falls below the general level of the surrounding bones, it indicates general weakness. If it bulges out, so as to be markedly prominent, it may mean a dropsy of the brain (hydrocephalus).

What change do the features undergo in the course of development in a healthy infant?

At first the head and face are round and rather expressionless, but as the infant grows the features expand upward and forward as the front lobe of the brain develops, while the lower part of the face remains stationary, or, perhaps, loses something of its fullness. If the digestive organs lose their normal activity the cheeks lose their fullness and the chin fails to expand, giving rise to what is called a "hatchet face." All through infancy the head seems disproportionately large as compared with the other organs.

At what age are tears secreted?

Not until the infant is three or four months old. At any age the eyes may be moist from crying, but not until the age mentioned do large tears form which run down the face. Sometimes during severe illness the tears are suppressed, and their reappearance is a sign of good omen.

In what order are the senses developed?

It is probable that at birth taste is the only sense which is active. Even this sense is only half alive. The infant can not see; it has no will; it hears but indistinctly, and that without consciousness, and it can not smell. But all of the other functions—like the soul and the intelligence—are only dormant, and very soon will awaken into lively activity. The same is true of voluntary motion. For the first two or three months all motion is automatic and without volition. The child moves its various members, but only because it can not help doing so.

At what age does a baby usually sit up?

The ability to lift the head is not often acquired before from six weeks to two months, but not until it is three or four months old can it support the head without assistance. At this age it begins to try to sit up, but it is rarely able to do so before six months. An infant that can sit alone by the time it is ten months old is doing very well.

When does a baby generally begin to walk?

The age differs widely. A strong, healthy infant will often stand upright in the mother's lap and put one foot in front of the other as early as six or seven months; by eight months it will begin to creep on hands and knees, and by eleven or twelve months will stand alone and perhaps walk a few steps without assistance. Many children, however, who are perfectly healthy, are very slow in learning to walk, particularly if they are expert creepers; others again never creep, but first learn to stand and then to walk. There should be no haste in the matter. If the baby is fat and heavy, and the bones are not well matured, the legs are almost sure to bend under the body's weight if allowed to stand or to try and walk, and bow legs will

result. Worse than this, the ankles are liable to turn, and ultimately the child will walk on the edge or side of the foot. Fifteen to eighteen months is quite early enough for the average child to walk alone, but if it can not stand or walk by the time it is two years old you may be sure that something is wrong, and a physician should be consulted.

Why does a child beginning to walk, when it falls, always go backward into a sitting position?

Because the muscles which form the calves of the legs and the thigh muscles are naturally stronger and better developed than those in front, and so they draw the body backward. For the same reason—the unequal development of muscles—every child at first walks "pigeon toed," and only learns to turn the toes out by slow degrees.

What diseases retard the ability to walk?

Any and all diseases may do so. If a child is not well nourished it will not walk because it has not sufficient strength of muscle to do so. General debility or weakness may postpone walking for an indefinite time until the muscular strength has been regained. The disease called rickets not only keeps the bones soft and easily bent, but weakens the muscles so that they will not hold the body upright. Scrofulous babies are usually fat, but weak in the legs. Paralysis of a limb or of certain muscles is also a barrier to walking. In the latter case the proper remedy is daily massage of the affected muscles, fresh air, and passive exercise. If the gait is limpy and the child complains of a pain in the knees there is good ground to fear hip-joint disease. It is well to remember the fact that girls develop more rapidly than boys, and children who succeed the first, by imitating their elders in the

nursery, learn to walk and talk much earlier than those born first.

Do you think artificial aids to walking useful or advisable?

If you refer to what are called *perambulators*, I do not approve of them, nor of any device to encourage a healthy baby to walk. My reason for this opinion is that it is always best to leave the development of functions and powers to nature, and it is never best to force development which is going on normally without such artificial aids. The normal healthy infant walks soon after it is able to stand, and it stands as soon as its muscles are strong enough to sustain the weight of its body. The effect of perambulators is to stimulate efforts to premature activity, and by encouraging the desire to stand and walk before the bones and muscles are properly developed, crooked limbs are almost sure to result. Let the child take its time to learn its powers in its own way and take its own time for it. In case of paralysis or the debility which comes from inactivity, then artificial aids may be of utility. The average infant needs to be repressed rather than encouraged in its ambitions to do like older children and adults.

Is it not best to allow a child to develop mentally and physically without forcing him in the slightest degree?

Most decidedly. It is said, you know, that "the good die young." It is all the more true of precocious children. The nervous system of a child is easily overstrained, too much blood is brought to the brain, and meningitis, chorea, or some other nervous affection is liable to result.

How early does an infant clearly recognize its mother?

Those who have studied the subject closely and ob-

served the mental development of many infants, assert that hunger and pain are the only sensations an infant experiences prior to three months of age. By the time it is a month or six weeks old it may show pleasure by smiling, but it does not laugh outright until five or six months of age. Smiles before the age of one month are probably due to wind on the stomach or belong to the class of movements called automatic. At three months of age the child begins to show intelligence and exercises thought and memory. It enjoys the sight of bright objects and is pleased at certain sounds. It notices objects and reaches for them. At this time it probably is able to distinguish forms sufficiently to recognize its mother, especially if she nurses it, and will cry to go to her if she is near and food is desired. By the time it is six months old it recognizes other friends and shows a desire to go to them.

When should a baby begin to talk?

Quite early the baby begins to use its voice in making articulate sounds that seem to the fond mother to indicate an effort at intelligent utterance. These first efforts are, however, delusive so far as intelligence is concerned. The cooing sounds which it makes are only expressions of comfort and satisfaction, without any other definite meaning. The sharp vowels, sounding like *ah*, are soon, however, transformed into *ma ma* or *pa pa*. At the age of eight or ten months intelligence is sufficiently awakened to imitate a few spoken words, and by this time mama and papa are expressed with intelligent meaning. The vocabulary, however, of an infant under eighteen or twenty months of age is exceedingly limited, and many children do not articulate clearly and make sentences before they are two years of age or older.

At what age can an infant be taught to use a chair instead of the diaper?

As soon as a child is able to sit up it should be held up, after the diaper is removed, over a chamber, at regular intervals, say two or three times a day. A little later the child should be placed in its chair and left there until the bowels move. If this is done at regular hours the regularity of the bowels can be quickly inaugurated and maintained. In case the bowels are constipated, which will never happen if the food is right, an enema of warm water, without soap, or a glycerine suppository should be used before placing the child on the stool. In this way the diaper may be dispensed with as early as three months of age, or if the diaper is used at all it should only be necessary at night.* The sooner cleanly habits are taught the child the better it is for all concerned, and his education can not better begin than in disciplining and controlling the natural functions.

I am told that the baby loses its first head of hair, and I wish to know if that which comes afterward will be of the same color and texture?

The first hair begins to fall out often as early as the end of the first week, and continues to do so for some weeks. Sometimes the falling out is so excessive as to leave the head quite bald. No anxiety need be felt, however, on this account, for new hair will quickly follow, and usually it is somewhat darker in hue, and if very light will continue to darken as the child grows older. The eyes also frequently change color after birth, sometimes becoming darker and again lighter. The rapidity with which the first hair is replaced is

* One of my lady patients tells me that she has taught her children to use the chair when they were not over six weeks old.

variable. It is not an uncommon thing to see a baby five or six months of age with a head quite bald, but the new hair will come in time, and at first will be a shade or two lighter in color, which will afterward darken. Never use a comb or pomatum on a baby's head. A sponge, with castile soap and water, is all-sufficient for cleanliness, and a soft brush is all that is needed for the completion of the head toilet.

Let me ask you, Doctor, about the relative viability of the sexes. Is there any special difference between boy and girl as to their prospects of growing up?

Prof. G. T. W. Patrick, of the University of Iowa, who has given much attention to vital statistics, says: "Some interesting differences are now clearly made out between man and woman in respect to birth, death, and disease. Statistics show that about 105 boys are born to every 100 girls in Europe and America. The proportion in other countries and among civilized races is said to be about the same. The greater mortality of males, however, begins with birth and continues throughout childhood, adolescence, and the greater proportion of adult years. If, therefore, a count be made of boys and girls or men and women at any age after the first year, the females are found to be in a considerable excess, and this notwithstanding the decimation of women by diseases incidental to the child-bearing stage of their lives. These results, formerly attributed to accidental causes, are now known to be due to the greater natural mortality of males, and this is found to be in harmony with another series of sexual differences, namely, the greater power of women to resist nearly all diseases. Hospital statistics show that women are less liable to many forms of disease than males."

But do these statistics which you have quoted apply to me and to my baby?

If you apply them rightly it may aid you to save your boy baby by making you take better care of him than you otherwise would. It has been said, you know, that figures can not lie. I think the statement here made about the relative stamina or viability of the sexes is accurate. It certainly is borne out by my own experience.

Perhaps we do not take as much care of our boy babies as we should. We try to toughen them. We seek to harden them by exposures which we would never think of doing with their sisters.

The average mother says to herself, "My baby is a boy and I must make a man of him. He is of the stronger sex. He can endure more than his sister. He can endure colder baths and go barefooted when his sister can not." But the toughening process often results disastrously. The boy takes cold and suffers in consequence. In point of fact he can not and does not bear exposure any better than she does. The toughening process is a mistake.

But, Doctor, do you not believe in what is called hardening or toughening children?

No, I do not, if I understand the purport of your question. These are not Spartan days, and Spartan discipline would go amiss with our children of to-day. Somebody has wittily but truthfully said, "that which would be unnatural under a natural state of affairs is perfectly natural in the unnatural state in which we live." To reverse this statement, and make it apply to the present day, it ought to read, that which would be perfectly natural, and therefore harmless, with a crude or country-bred people, is quite unnatural and

hazardous when applied to children who are enervated by civilization. It would lead me into stray paths and open up a field of thought altogether too wide for this volume to fully discuss questions of this nature; but let me say in a general way that the more highly cultivated a child is, the more highly refined in its nervous development, the more careful must be its bringing up. Delicacy goes hand in hand with culture, and by delicacy I mean sensitiveness.

A newsboy or street gamin, the child of the alley and the slums, will stand all sorts of exposure without serious consequences, while the child of the avenue would succumb to a tithe of the exposure. The former may jump into cold water and dress in wet clothes, sleep in a draught, on a hard floor without covers, but the high-born child, only a few blocks away, would soon be killed by similar treatment. Please do not misunderstand me and think that the child with a nurse and a silver spoon should be coddled and treated like a sensitive plant. Far from it. What I wish to impress upon you is the fact that there are differences in children, and while some children may bear exposure and tough usage, the more delicate the child, the more sense and judgment must be used in perfecting and developing a hardy constitution. It can not be done by harsh means in infancy. The well-bred infant is always delicate and sensitive to harsh measures. To overcome this innate, inborn natural delicacy, requires the greatest care and judgment. It is quite possible to coddle an infant too much, to dress him too warm, and to keep him too much indoors; but it is also quite possible to send him outdoors in chill air imperfectly clad, and to seriously injure his health by a mistaken idea that strength and health are only secured by exercise carried to the point of fatigue and exposure bordering upon a prolonged chill. It is very

difficult to lay down rules for guidance in a matter of this kind where babies of different powers of endurance are concerned. No infant, however strong and robust, can stand cold like an adult, and no baby can endure the shock of climatic changes as it can later in life.

CHAPTER III.

SLEEP.

"*He that sleeps feels not the toothache.*"
—CYMBELINE.

"*Sleep on, baby, on the floor,*
Tired of all the playing,
Sleep with smile, the sweeter for
THAT *you dropped away in!*
On your curls' full roundness stand
Golden lights serenely—
One cheek, pushed by the hand,
Folds the dimple inly."
—E. B. BROWNING.

How many hours a day ought a new-born babe to sleep?

During the first month the baby ought to sleep most of the time, only remaining awake long enough to be bathed, dressed, and fed. The more natural sleep a baby gets the faster it will grow and the stronger it will become. Under ordinary circumstances the baby's sleep should not be abruptly broken, neither to give it food nor to satisfy the curiosity of visiting friends. Give the youngster all the sleep it wants. Nature will awaken it at such times as food is required. While sleeping it is growing, and "Kind Mother Nature" is carrying on her processes of development. These

processes should not be interfered with. There is no danger of the baby sleeping too much if it is well.

But suppose it will not sleep, but remains wakeful, and is cross and peevish; do you approve of giving medicine to produce sleep?

No, never. If the baby is wakeful and refuses to go to sleep you may be sure that something is wrong, and before you give any medicine to produce sleep artificially you should consult your physician.

There may be something wrong with the mother's milk, so that it fails to satisfy the hunger of the baby. Its tongue may be tied so that it can not grasp the nipple and so fail to get any nourishment at all, although laying at the breast. There may be closure of some of the natural passages. Many things are possible which only an experienced physician can unravel and relieve. But never, under any circumstances, give remedies to produce sleep without the advice of some one who understands their danger. All soothing syrups, cordials, and quieting medicines contain opium in some form, and all experienced physicians realize the danger of giving these mixtures to babies. I have myself known of a number of deaths of infants caused by giving patent medicines which were ostentatiously declared to contain neither opium nor anything else injurious. The young mother should beware of all drugs recommended by nurses and friends (other than medical), or those advertised and sold as proprietary medicines, which claim to relieve pain and produce sleep. They all contain powerful narcotics which are dangerous and treacherous. A nurse who has once administered such a drug to a baby without the knowledge of the mother should be discharged instantly and without ceremony.

But such things are used, are they not, and often with impunity?

Yes, but only doctors and coroners know to what a fatal extent. There are numerous instances on record of death being produced in a young infant by a *single drop of tincture of opium* (laudanum), and a few drops of paregoric have been known to relieve an infant a month old from pain forever.

Do you advocate the use of a crib from the first, or is it better to postpone sleeping alone for a time?

I think it is decidedly best for the infant to sleep alone from the first. Of course there are "circumstances which alter cases"— the room may be cold or sufficient covering for the baby wanting. In such case the young babe should be snuggled up to the warm breast of the mother and should sleep there. But under ordinary circumstances, with a room suitably warm, and other conditions favorable, the babe is far better off in its crib or in a "bassinet."

When the infant is allowed to sleep on the mother's breast there is not only a real but a serious danger of its being overlaid, and the practice is almost certain to inspire the bad habit of sleeping with the mother's nipple in its mouth, which is fraught with evil both to mother and child. The rest of both is disturbed, and the infant's stomach is kept busy all night with interrupted but pernicious lunches. The least movement of one is almost sure to awaken the other. In case it escapes the danger of being overlaid, it is still liable to be chilled or suffocated as the bedclothes are either drawn away from it or sleepily thrown over its head.

Do you approve of rocking a baby to sleep?

No, the rocking cradle and rocking chair are both injurious. They establish a bad habit which is quite

unnecessary. If correct habits are begun early it is easy enough to maintain them.

A new-born baby ought to be taught to lie quietly on a flat bed and not to want unnecessary things. The baby's natural wants are few and are easily satisfied unless bad habits are cultivated. Being rocked to sleep is neither natural nor healthful. It is an acquired habit, and the more it is cultivated the more it enslaves the mother and encourages other exactions on the part of the ruling prince. This is not a mere sentiment, nor is it due to any desire to curtail the mother's pleasures in ministering to legitimate duties or wants.

Rocking causes an increased flow of blood to the brain, which is just the thing to be avoided, for when sleeping soundly the brain is comparatively empty of blood. A cool head and warm feet conduce to sleep. If an infant is perfectly well it will fall asleep just as readily if laid in its cot as if rocked in a cradle or held in its nurse's arms and rocked in a chair. Rocking is purely artificial, and the less artificial wants the young lord has the better for him. If the child is sick or restless, the mother may take it in her arms and sing to it and coddle it, but if the baby is properly trained from the beginning, rocking it to sleep will be entirely unnecessary.

How about walking with the baby to induce sleep?

This is worse than rocking, for it is much harder on the nurse or parent who undertakes to quiet a restless babe by this artificial means.

But explain, if you please, how a restless baby can be put to sleep. If not by rocking or walking, or soothing syrups, how then?

Sometimes a baby is cold, and hence wakeful; sometimes hungry or thirsty. Satisfy its legitimate wants,

make it comfortable, and if well it will soon drop asleep. If not well it needs medicine for its present ailment, but never simply for the purpose of putting it to sleep.

There are many reasons why the child should not lie longer than necessary in the bed of the mother. In the first place, the mother's bed, during the period of her confinement, is not cleanly; it is more or less contaminated with her secretions and excretions. Then there is the constant tendency of the child to nurse too often, or to drop off to sleep with the nipple in its mouth, which is a very bad habit. Finally, the repose of both mother and babe must necessarily be more or less disturbed by the proximity. If the mother is without help, she may place the baby alongside of her bed, in some suitable receptacle, where it is within easy reach, but not in the bed with herself.

Do not forget the hypnotic influence of soft lullabies. How many children have been soothed to sleep by that old nursery rhyme, "Hush-a-bye, Baby," and by the weird little nothings of "Mother Goose Melodies"!

Unless we are much mistaken, the lullabies of Eugene Field, who has been very justly styled "the children's poet," are destined to find a welcome home in the new nursery, and to some extent, at least, to take the place of the time-worn songs of former generations.

Eugene Field was a personal friend of the writer, and it is, therefore, a double pleasure to reproduce here one of his most charming nursery rhymes:

THE SHUT-EYE TRAIN.

Come, my little one, with me!
There are wondrous sights to see
As the evening shadows fall;
In your pretty cap and gown
Don't detain
The Shut-Eye train —

"Ting-a-ling!" the bell it goeth,
"Toot-toot!" the whistle bloweth,
And we hear the warning call:
"All aboard for Shut-Eye Town!"

Over hill and over plain
Soon will speed the Shut-Eye train!
Through the blue where bloom the stars
And the Mother Moon looks down
We'll away
To land of Fay—
O, the sights that we shall see there!
Come, my little one, with me there—
'Tis a goodly train of cars—
All aboard for Shut-Eye Town!

Swifter than a wild bird's flight
Through the realms of fleecy light
We shall speed and speed away!
Let the Night in envy frown—
What care we
How wroth she be!
To the Balow-land above us,
To the Balow-folk who love us,
Let us hasten while we may—
All aboard for Shut-Eye Town!

Shut-Eye Town is passing fair—
Golden dreams await us there;
We shall dream those dreams, my dear,
Till the Mother Moon goes down—
See unfold
Delights untold!
And in those mysterious places
We shall see beloved faces
And beloved voices hear
In the grace of Shut-Eye Town.

Heavy are your eyes, my sweet,
Weary are your little feet—
Nestle closer up to me
In your pretty cap and gown;

Don't detain
The Shut-Eye train!
"Ting-a-ling!" the bell it goeth,
"Toot-toot!" the whistle bloweth.
O, the sights that we shall see!
All aboard for Shut-Eye Town!

But, pardon me, suppose the baby WILL *not go to sleep?*

My dear madam, pardon me in turn if I say that a baby under a year old has no "will." If you expect your child to have good habits when grown up, you must begin to educate it early — as soon as you are able to assume the responsibilities of motherhood. If you are lax and loose about the baby's habits, it will soon appreciate the fact and you will regret it later. Sleep, perhaps, as much or more than any other item of nursery regime, depends on habit and mild but decided purpose. A lack of firmness in the early months of the baby's life may not only render its early years a burden to itself, but an annoyance, if not a nuisance, to the entire household.

But a baby's habits, if easily formed, are easily corrected if not right?

Do you not remember what Ovid says:

"Ill habits gather by unseen degrees,
As brooks make rivers, rivers run to seas."

You will find, my dear madam, that it is very much easier to avoid the formation of bad habits than to correct them after they have once been formed. An infant is as plastic as moist clay. You can mold it to your will. But you must have a will and a purpose and a plan, and make your judgment and your duty *law*.

What is a "bassinet"?

The *bassinet*, as usually made, consists of a willow

basket with high sides, with a hood or cover over one end. It should stand up from the floor so as to avoid draughts. It should be light and easily portable, so as to be readily moved from place to place or from room to room. It should be lined and may be trimmed or decorated according to the mother's taste and pleasure.

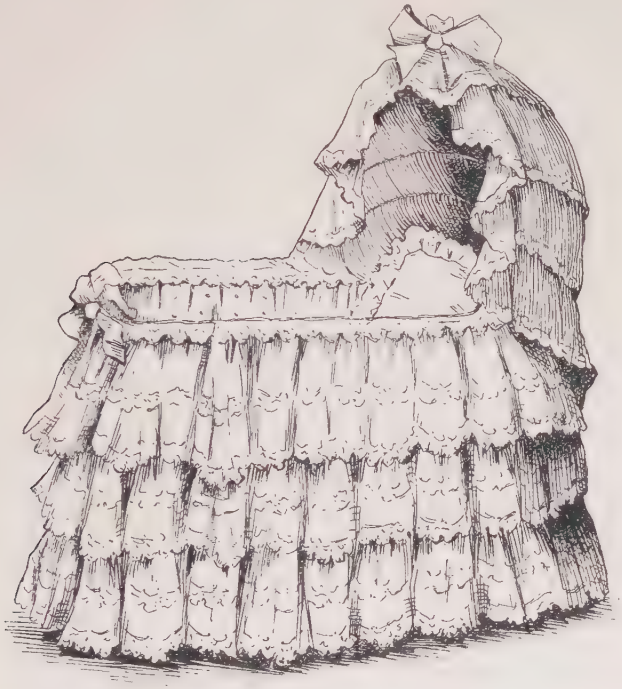


Fig. 9.

I will suggest, however, that the simpler and less expensive the better, so that the coverings may be changed as often as dusty or soiled. For the first few months, then, let the baby sleep in the bassinet, which

should be well sheltered from draughts and protected, if necessary, by portable screens.

But, Doctor, there seems to be so much comfort in a rocking cradle, and it is so time-honored as a nursery adjunct, that it seems almost cruel to dispense with it. Is the use of a cradle considered injurious?

Oh, no, not injurious, but simply unnecessary. A baby who has never slept in a cradle does not miss it. As Shakespeare hath it:

> *"He that is robbed, not knowing what is stolen,*
> *Let him not know it and he's not robbed at all."*

Educate the baby to go to sleep without extraneous aids and the tired mother or patient nurse will be freed of one more nursery duty which is prone to become arduous if not unbearable.

I infer that you do not approve of the old-fashioned trundle bed?

No, I do not, because it brings the sleeper too near the floor, where the draughts are always more marked, and consequently more dangerous.

What sort of crib do you advise?

It should be preferably of iron or brass, and should have sides which let down or slide. The sides should be high enough to protect the infant from falling over as it learns to climb about. There should be no curtains to the crib, for they only collect dust and dirt and prevent free circulation of air about the sleeper.

What are the proper furnishings for the crib?

First, a woven wire mattress and over this a thin hair mattress. This latter should be protected by a rubber cloth, and over this again a doubled sheet. To increase the softness and warmth a piece of quilt may be placed above the rubber cover. This is especially desirable in

winter. The pillow should be small and of curled hair, in order that the head may be kept cool. The bed coverings should be light but warm. These consist of a sheet, as many soft coverings of blankets as may be necessary for due warmth, and a light spread as delicate and dainty as one pleases. Muslin is preferable to linen for sheets, as it is not so cold. For the pillow cases, linen is probably better than muslin. The rubber cloth which I have just mentioned must be kept scrupulously clean and dry and must be frequently aired. It is impossible to exaggerate the importance of having all of the crib belongings kept clean by constant changes and thorough airing. The mattress as well as the sheets should be aired daily, and, when possible, exposed to the rays of the sun. If the sleeping apartment is not kept warmer than necessary, it is well to warm the baby's sheets before it is put in bed, as it can not be too frequently repeated that an infant's body is very easily chilled, and a child will go to sleep more quickly if, after being divested of its day clothing, it is wrapped up in a cozy and warm bed.

Is there any device which will keep a growing and restless child from kicking the clothes off at night?

There are many devices of this kind, the simplest of which is the use of large-sized safety pins. But this is not at all times convenient, and at best binds the child down in an uncomfortable manner. The sheets may be tied to the crib by rubber or elastic bands. The same object, however, can be secured, and in a more satisfactory manner, by the use of night-drawers that envelop the feet as well as the legs. For young infants just learning the art of kicking, a simple bag with arms will answer a good purpose.

Have you any other suggestions to offer concerning the matter of sleep?

I should like very much to impress upon you the necessity of regularity in both the hour of retiring at night and the nap in the daytime. It is an old saying, but truthful as it is old, "As the twig is bent the tree's inclined"; and again, "Train up a child in the way he should go, and when he is old," etc. If you expect your child to be systematic and methodical when grown if you wish him to be fat, and strong, and well in boyhood, you must insist upon regularity in his nursery life from day to day. A child that is put to bed at a certain hour every day and every night will quickly fall into the habit of sleeping regularly and soundly; but if allowed to deviate from rules and sleep at odd times, he will surely be whimsical, fretty, and on occasion it will be next to impossible to get him asleep. Let nothing—neither visitors, duties, nor a temporary conflict of authority—interfere with the daily routine of the baby's life. He needs much sleep, and he can only get it by methodical training. At first, the young infant sleeps nearly all the time. After a couple of months, it will often lie awake for an hour or so at a time. At a year old it should still have from fifteen to sixteen hours' sleep daily. At two or three years old it should have, to be hearty and grow, twelve to fourteen hours' sleep; and from this time on, all through its childhood, it should have from nine to twelve hours. If the baby is fretful and will not sleep, be sure there is something the matter with it, for insomnia in infants is contrary to nature.

What should be the temperature of the apartment in which the baby sleeps?

The temperature of the sleeping apartment should

be as nearly as possible 60° F. If warmer than this, the child's sleep will be restless and broken. There is less danger in a temperature which is too cold than in one which is too warm. Overwarmth produces perspiration and invites draughts, which are liable to chill the surface and give one cold. Besides, it is easy in a cold room to keep the body warm with additional covers, while it is not so easy to regulate the covers in a room which is overheated. Although the room should be comfortably warm during the sleeping hours, it should be, from time to time, properly ventilated. An unventilated room soon becomes foul and unhealthy. Both children and adults are often unconsciously poisoned with their own breaths.

Should the sleeping-room be dimly lighted, or kept quite dark?

The night nursery should never be without a light which can be quickly turned up in case of emergency. Except when needed, however, the light should be quite dim. An infant should not be allowed to look at the glare, either of a fire or other light, as the glare tends to weaken the sight, and may bring on inflammation of the eyes. In speaking to or noticing a baby, the speaker ought always to stand *before* and not *behind* him, as it may produce a squint.

While the infant is asleep do you advise the head of the crib to be covered with a handkerchief, or otherwise to shade the eyes from the light, and in summer time to keep off the flies?

No; this practice is very pernicious. If the head of the crib or the face of the babe be covered ever so lightly, the babe can not breathe freely; the air within the crib becomes contaminated, and then the lungs can not properly perform their functions. If his sleep

is to be sound and refreshing, he must breathe pure air. All hangings about a child's bed are objectionable. I have seen it stated that if a cage containing a canary be suspended at night within a curtained bed where a person is sleeping, the bird will, in all probability, be found dead in the morning. If flies are troublesome, a coarse net veil may be thrown loosely over the face, for he can breathe through the net, but not through a handkerchief.

Is it a good sign for a young child to sleep much?

Good sleepers are always more plump, less fretful, and more robust than those who sleep but little and fitfully. During sleep the system is building up, and repair of tissue is going on with comparatively little waste. I have frequently known infants that were very small and delicate when born, but who slept the greater part of the time, to grow strong and robust; and I have known others who were large and apparently much stronger at first, to become puny and weak and unhealthy, because they slept so poorly.

Do you approve of permitting the baby to go to sleep on the nurse's lap?

No, the practice is a bad one and should not be countenanced. A babe will sleep much better and be cooler and more comfortable in his crib. The younger the child the more it ought to sleep. During the first few weeks he is seldom awake, and then only to take the breast, when he should go off to sleep again if well and fully satisfied with his food.

Should a baby be encouraged to sleep in the open air?

No. The object in taking the infant out of doors is to give him fresh air and exercise and develop his powers of perception. He should be wide awake when

taking his outing, and as soon as he goes to sleep he should be taken indoors again. Everybody, regardless of age, is more susceptible to atmospheric changes when sleeping than when wide awake. In our climate these changes are often sudden and sometimes severe. There is another reason why the baby should be encouraged to keep awake when out in its carriage. Sleep is contagious. Unless the nursemaid is exceptionally conscientious, she will fall into the habit of carelessness and forgetfulness if the baby slumbers during its outing.

What is the best time for the baby to take its daily outing?

Directly after its morning nap, the weather being suitable. After the morning bath it should be nursed and put into its crib for a long nap, after which it may go out for an hour, more or less. If the weather necessitates a postponement of the outing, let the postponement hold until after the second or subsequent nap. In this way the infant will be more apt to keep awake and will enjoy its ride and the fresh air much more than if taken out when tired and sleepy.

But is there no danger from the baby's breathing the cold air?

Not if the air is still and dry. You should avoid sending the infant out when the wind is strong, and more particularly if it is damp as well as cold and windy. If the bodies of babies are kept thoroughly warm there is no risk of their catching cold from inspiring cold air. Healthy children naturally breathe through the nose, keeping the mouth shut, and then cold air is warmed by contact with the interior of the nose before it reaches the more sensitive linings of the throat and bronchial tubes. Even in midwinter a strong and

healthy baby can be safely taken out of doors after it has reached the age of a month or six weeks, if the sky is bright and clear and free from cold, damp winds. It is well, however, to first accustom the baby to changes of temperature by taking it from one room to another, and to continue this practice on bleak days when it is unsuitable for it to go out of doors. After the first few weeks, if the outdoor weather is bad, the baby may be wrapped up as if going out, and carried about or, still better, wheeled about in its perambulator, with the windows of nursery or hallway wide opened.

How long is it best to permit the baby to be out of doors during its first outing?

This will depend on the age and health of the baby and also on the temperature and humidity of the air. You must bear in mind that it is much more the *duration* of exposure to cold than its intensity which is likely to injure a young infant. The more weakly and delicate the infant, the less resistance it has against the effects of cold. Even with the healthiest infants this resistance has its limits, and *care* must be exercised not to transcend them. A short exposure is stimulating and beneficial in its effects, while prolonged exposure is followed by depression, chilliness, and a tendency to catarrh of the bronchial tubes or of the stomach and bowels. When due regard is paid to the maintenance of warmth, nothing is more healthful for young children than regular exposure to the open air. The appetite is increased, the color of the skin is heightened, more rapid progress is made in growth, and the sleep at night is more restful and satisfactory. But the effects of cold air must be watched by the mother or nurse when out of doors, and it should be taken in whenever the hands or feet are felt to be the least chilly.

At what age should night feeding cease?

If the baby is well and growing satisfactorily, it is well to encourage an all-night's sleep by withholding the breast after the fourth or fifth month.

Should a child be allowed to sleep at the mother's breast, or to sleep with the nipple of the nursing bottle in its mouth?

No. Such a habit is very wrong, although some nurses are obstinately given to this practice. The sleep which an infant gets under these circumstances is far from being restful, for the presence of the nipple in its mouth keeps up a semi-consciousness which is not sound slumber. As soon as the child is fairly asleep the nipple should be removed from its mouth. In other words it should be kept awake until its meal is finished and then removed from contact with either breast or bottle.

Should a child be sent out daily, regardless of the weather?

No; if it is rainy or damp, as well as cold, especially if the wind is from the east or northeast, you had better keep the baby indoors. Cold, dry weather is not objectionable. Wrap him up well and send him out. The cold will brace and strengthen him. Cold air is the finest tonic in the world. It is full of ozone and free from dust and effluvia. Of course if the child is ill, especially with any throat or lung trouble, it may be unwise to send him out in all weathers. Consult your physician under such circumstances and be guided by his judgment.

Have you any other suggestions to make about the matter of sleeping?

Let me suggest to you that the baby's sleep be suf-

ficiently respected as not to be disturbed, either in the daytime or nighttime, by loud talking or unnecessary noises in the nursery. Let perfect quiet be maintained and let the baby sleep until it awakens naturally and of its own accord. No rigid rules should be laid down as to the number of hours or minutes that the baby or child should sleep before being awakened. Let it sleep all it will.

If you desire your child to be an early riser, see that its night's repose is started early. "Early to bed" is the first and most important part of the old and most wholesome injunction, "early to rise." Late hours at night always mean, or should mean, late hours in rising. Nature demands so much rest for every child, and it is the sheerest folly to allow children to sit up for their own or others' amusement until 10 or 11 o'clock at night, and then insist that they should rise at 5, 6, or 7 o'clock in the morning.

Another matter is apropos, and of great importance. Never let an infant or child sleep in an apartment where there is a person ill at the time, if it is possible to avoid doing so. All sicknesses, even those which are not regarded as contagious, are sure to fill the sick-room with emanations which are more or less unwholesome. Sleeping in the same room with one who has catarrh or a chronic cough is especially to be avoided. No amount of care in ventilating the room can entirely obviate the danger.

Let me make one other suggestion. The sleep of the child will be much more restful, and much unnecessary labor can be avoided, if, as soon as the child is old enough to use its chair, it is encouraged to empty its bladder before lying down to sleep. Immediately after nursing, and just before being put into the crib, it should be placed on the chair and allowed to remain

there for a few minutes. In case this precaution is unavailing, and the sheets become soiled, it matters not if it be in the middle of the night, the sheets should be changed, and the infant replaced in a warm, dry bed.

Does thirst ever keep a baby from sleeping?

More easily than it would cause you yourself to be restless. Did you ever suffer from thirst, and dream about water which was just beyond your reach? Such a thing is quite possible. You may depend upon it, if a child does not sleep, it is either sick or wants something which may be classified among the demands of nature. An unsatisfied desire is a very common cause of lack of rest, and in infants it is more often than otherwise attributed to hunger, when the real cause is thirst. In such cases the remedy is obvious. During teething, when the mouth and gums are hot and feverish, it is a good plan to give the baby, occasionally, bits of powdered ice, or to wrap a small piece of ice in linen, and let him suck it.

SLEEPLESSNESS.

What causes, other than sickness, tend to make a child restless or sleepless?

While a child is teething, there are certain mechanical disturbances, such as pressure of the coming tooth on the nerve beneath, and in children of a highly nervous organization we are very apt to have disorders of digestion, malnutrition, and brain excitement, which result in sleeplessness, and perhaps convulsions.

Another cause of sleeplessness not at all due to disease is produced by excitement just before being put to bed, especially after it has had its last bottle or been fresh fed. Our city babies are of an excitable temperament, and, as a rule, do not get enough fresh air and

sunshine. The result is that fatigue, which should naturally invite prolonged and peaceful sleep, is accompanied by a degree of excitement which prevents this. After taking the breast, or its bottle, or bowl of food, there is a feeling of drowsiness, which will soon, if not disturbed, result in sleep, but if this tendency is once disturbed it will, in most cases, cause a wakeful night. To the father who has been at his desk or shop all day, the temptation to have a romp with the baby before it goes to sleep for the night is well-nigh irresistible, but in the interest of the baby it must be resisted. The excitement of playing just after its last meal, and just before its regular sleeping time, is sure to produce wakefulness and an excitement of the brain which may take hours to overcome. In children a year old or over, sleeplessness from no apparent cause may be relieved by a hot foot-bath. At any age if the infant is habitually wakeful I would suggest a substitute of the sponge bath for the full morning ablution and a warm foot-bath at bedtime.

Still another cause of wakefulness in an infant is hunger. It matters not if the child be breast-fed or bottle-fed, it frequently happens that in spite of appearances the food is insufficient in quantity or wrong in quality, so that it fails to meet the full requirements of nutrition. I have frequently found this to be the case in spite of the mother's protest that her supply of milk was abundant, and that, to all appearances, it was of standard quality. If a child is losing weight or at a stand-still, and if there be no other obvious cause for its wakefulness, it is in all probability due to the character or quality of the food. If the infant is being suckled, try a bottle of food as warm as the child can take it, consisting of Mellin's Food and water, the proportions being a tablespoonful of the food and hot water and

milk enough to fill the bottle. This is far better and more effectual than bromides or any other hypnotics.

The young mother must remember, or at least she should know, that as soon as her menstrual periods are resumed she begins to lose her milk. Its bulk may remain the same, but it will lose in richness and quality, and hence it will fail to satisfy the growing boy or girl. Children who are bottle-fed are often underfed, and are put to bed hungry and unsatisfied because the food is no stronger and supporting than it was in the early months when the demands of the system were far less than now. As the child grows older its food should be made stronger. More milk should be added to all the cereal baby foods, and if condensed milk is used it should be changed in its proportions of water, or it may be that more cream is needed to give it the proper proportions to meet the wants of the emaciated tissues.

Is it not possible that the other extreme may obtain in some cases, and that a baby may be restless from over-feeding as well as from under-feeding?

I think the latter condition is found quite as frequently, if not more so than the former. Regularity in feeding, and putting the child to bed at exactly the same time every day and evening, will very soon establish the habit of regular sleep.

BOWELS.

Is it necessary to make a baby's bowels move a few hours after birth, if they do not do so naturally, and if so, what are the best means to use?

Nearly always the bowels move spontaneously after the baby has been put to the breast for the first time, which should be soon after the first bath and the mother has had a few hours' rest. In case they do not

move during the first twelve hours, use a glycerine suppository or a suppository improvised out of a piece of castile soap. The soap suppository should be of the size of an ordinary lead pencil, and about an inch long, tapering at one end. This should be gently inserted into the rectum and a stool will soon follow. An enema of plain warm water without soap will answer the same purpose. Never give the baby castor oil or any other laxative in early life. It is not only unnecessary, but productive of much harm — the least of which is the commencement of a very reprehensible habit. Keep the baby's stomach for food and drink and avoid giving medicines internally as much as possible. As Robert Collyer has said:

"*Let kind Mother Nature buckle his belt*,"

Which is to say, interfere as little as possible with the natural functions and never give medicines unless they are actually needed.

But, Doctor, my nurse, who seems to have had a very large experience with newly born babies, says that castor oil is absolutely necessary to cleanse the bowels and free them from foul matters?

I am well aware that old nurses and some physicians are still in the habit of using the old custom, but it has nothing but age and tradition to recommend it. The first secretion in the maternal breast is in itself a laxative and intended by nature for just this purpose. It is usually all-sufficient and nothing else is required.

This subject will be referred to again when treating of nursing.

BATHING.

I wish you would tell me when and how the baby's first bath should be given?

The initial bath may be given at any time, the sooner

the better, after the mother has been made comfortable and the nurse in charge has leisure to turn her attentions to the newcomer. The first bath differs essentially from that which the infant will ordinarily receive, and hence requires special directions as to the proper procedure. It has a special object in view which will not obtain later. Besides the amniotic fluid in which the unborn babe has been immersed, there are other substances, one of which is easily wiped off when the baby is first born. This is a cheesy and tenacious substance, called the *vernix caseosa*, adhering to the body, and which warm water will not remove. It is softened and removed most easily by the free use of warm olive oil, a bottle of which should be provided when making preparations for the baby's advent. No water at all should be used in this first toilet, except for the face, eyes, and mouth. These parts should be carefully washed with soft warm water into which a dash of powdered borax or boracic acid has been put. Care must be taken that the eyelids, the nostrils, and the inside of the mouth are adequately cleansed and properly dried. The general oil-bath follows. The body, head, arms, legs, etc., should be rubbed over well with the warm oil, care being taken to invade the groins, the armpits, and the cleft between the nates, where this white, cheesy substance is apt to be most abundant. If this "anointing with oil" is cleverly and efficiently done, a soft cloth quickly following will wipe off the oil and the "vernix caseosa," and leave the infant's skin soft as velvet.

Next comes the dressing of the cord, and first attention should be given to the tying, in order to make sure that it has been properly done. If there is any oozing of blood from the stub end, it should be retied, but if all is well the cord should be dressed in the simplest

manner possible. Be sure, however, that everything which touches the cord is clean. The old-fashioned way of dressing the cord with burnt linen was the outcome of experience with soiled linen, and was an attempt to *cleanse* the linen by scorching. Better than this is new absorbent cotton — if borated the better. If this has not been provided, use a piece of soft old linen, about three or four inches square, dusted over with borax or boric acid. Wrap the cord in one or the other of these wraps, and then, using the binder, turn up the enwrapped cord toward the baby's face and to the left side. The flannel binder should be loose rather than tight, but sufficiently tight to keep the dressing in place. This dressing should not be disturbed until the cord is ready to drop off, which will be in from five to ten days. No grease must be used in the naval dressing. When the cord falls off, if there is any hemorrhage at the place of detachment a physician should be summoned at once, as dangerous loss of blood may ensue. While this is a very rare accident, it has occasionally happened. If no doctor is at hand, wet a bit of cotton in vinegar and lay it over the bleeding surface and bind it down with the binder, placing a one-cent piece underneath it. While this toilet is being perfected the nurse will have time and opportunity to see if there be any imperfections in the formation of the little stranger. She will ascertain whether it is perfectly formed; whether the natural orifices of the body are as they should be. An experienced or well-taught nurse should be able after the first bath is over to assure the mother that the baby is perfectly formed, or if she discovers any imperfection she must use her discretion about informing the mother as to its nature and extent. In case of any flaw or imperfection which the doctor has not been made aware of before his departure, he should

be recalled or his attention called to it at his next visit. An experienced nurse will not be alarmed at a seeming distorture of the head or at a puffy tumor on the vertex. The long-drawn-out shape of the head immediately after birth is due to the fact that the bones of the skull are not solidly united in a baby born at full time, but are connected by membranes, so that in the transit of the baby's head through the parturient canal it can mold itself to the diameters and curves of the pelvis and make an exit without damage to the mother. It sometimes requires two or three weeks for the head to acquire the natural roundness and shape, which it will eventually do. No attempt should be made to press it into shape, as nurses are quite prone to do. In case of the tumor I have referred to, it requires no treatment. After a few days, often after a few hours, the tumor disappears.

These preliminaries having been gone through with, the baby is dressed and should be placed in its crib, if the mother is resting, or, if she is desirous, the baby may now be placed in her arms and be allowed to partake of its first meal. This first meal is at once the best and the poorest the new mother will offer her babe. The *colostrum*, which is the name given to the first secretion of the breast, is in no sense food, but is just what the infant needs as a cathartic. Very soon after the babe has taken its first dinner it ought to have a discharge from the bowels, which is called *meconium*. This is a mixture of the products of intra-uterine digestion, bile from the liver, and epithelium from the lining membrane of the entire digestive canal. Its dark color is largely due to bile, which hitherto has had no outlet. The effect of this first secretion of the mother's breast entirely obviates the necessity of giving the baby a dose of castor oil, as used to be the custom. If the infant be

not an exception to the rule, it will get all the dosing later on, consistent with happiness and longevity. The baby being washed, dressed, and fed, the next thing is a sleep, *not a nap, but a long, quiet sleep.*

Well, Doctor, I think I understand most clearly about this first or initial bath, but will you kindly tell me about subsequent baths? How often should they be given and by whom?

While the mother is ill, the nurse should attend to the bathing and dressing of the child. After the monthly nurse is gone, it will be the duty of the mother or of the nursemaid, the former by preference, the latter only if she be exceptionally careful and experienced.

In either case all preparations for the bath should be made before touching the baby. These preparations are as follows :

First, the bath-tub should be light and easily portable, and is best constructed of block tin, oblong in shape, and should be painted white or enameled within. It may be placed on the floor or, still more conveniently, on a low table or kitchen chair, the legs of which have been shortened so as to bring the bottom of the tub eighteen or twenty inches above the floor. Underneath the tub a piece of oilcloth or linoleum should be spread. A wash-cloth of soft flannel, a piece of white castile soap, and two soft towels are also necessary. The mother or nurse should be provided with a long flannel apron to protect herself with, and in which she can wrap the baby when first taken from the water. The next essential requisite for the bath is a bath thermometer for determining the temperature of the water. It is impossible for one to guess at the heat of the water with accuracy, and a variation of a few degrees may

make a vast difference in the comfort and in the effect of a bath.

What do you consider the best temperature for a healthy baby's daily bath?

Ninety-five to 98° in winter and 90 to 95° in summer. As the blood stands at a uniform temperature of 100° F. at all seasons of the year, the temperature of the bath should be a little below that of the blood in order to be refreshing without any danger of chilling the surface. Accuracy in this matter is very necessary. The tin of the bath-tub abstracts the heat of the water very rapidly and holds it so that unless care is taken the hand or body of the infant coming in contact with it may be easily burned. The thermometer should be allowed to remain in the tub for several minutes until the exact degree of heat is registered.

What soap do you regard the best?

White castile soap is preferable to all others, but glycerine soaps are of a special purity and can generally be relied upon. Cheap toilet soaps — especially cheap transparent soaps—should be studiously avoided, as they contain, on an average, less than 20 per cent of true soap, but they do contain an excess of free alkali, which reddens and smarts the skin. A prominent physician of this city, in a recent article, says: "Do not use any soap for the first two years while the infant's skin is so delicate and sensitive. The lye, which is the bottom fact in all soaps, without exception, is unkind to a young baby's skin, and it is most unkind where the skin is the thinnest, behind the ears, in the fat folds of the neck, under the armpits, and about the privates. Since abandoning the use of soap, excoriations are, in my experience, a thing of the past. You can make a baby perfectly clean with pure water, and

the skin will be as soft as velvet. There is an oily, sebaceous nourishment to the skin from within, rendering it soft, pliable, and beautiful, and this the lye of the soap seeks out, leaving the skin dry and hard. Pure warm water will remove the dirt without disturbing this natural dressing."

But is so much bathing a real necessity?

I am well aware of the fact that many physicians and many excellent nurses think that daily full baths rather a fad than otherwise. I have heard doctors say more than once that they had known babies to be "washed into heaven." But I have myself never known such a case. I fancy that this prejudice against the daily bath is due to the practice which obtains largely in England, and to some extent in this country, among rigorous and inflexible mothers and nurses, of plunging the delicate infant into cold water or giving it a cold shower bath as soon as it can stand alone. To me, as to others, this seems barbarous, and is at least indefensible from a sanitary standpoint. The full warm bath is equally objectionable if practiced daily. It is admissible, perhaps, once, or at most twice, weekly, and should, with a robust infant, be followed by cold sponging. As a rule the immersion should not be more than a hip bath, extending the application to other portions of the body by a wash-cloth, always finishing by rapid, cool applications (if possible before an open fire) and speedy drying. In order to get a better understanding of the matter, let us argue the question for a moment. Let us look at the matter intelligently and in the light of physiology. The skin is composed largely of an innumerable number of pores, which are the orifices of glands within the true skin, and which empty onto its surface a large amount of waste material daily,

hourly, constantly. This waste matter passes out of the body through the skin in the form of insensible perspiration. In an adult from one to two and one-half pints of fluid containing effete or deleterious matter in solution pass through the glands of the skin every twenty-four hours. According to Doctor Carpenter there are no less than seven million of these glands on the surface of the body of an adult of ordinary size, and he also estimates that these glands, if placed end to end, would cover a distance of nearly twenty-eight miles. In the child there is naturally a smaller number of glands, but proportionately to its size the skin of a child excretes more fluid than that of an adult.

Furthermore, it is a well established fact in physiology that the skin is one of the great cleansers of the body. We both inhale and exhale by the skin as well as by the lungs. Many people suppose that the kidneys and the bowels are the principal organs of elimination, but this is a mistake. In order that the body may be kept in health, the skin, as well as the lungs, the kidneys, and the bowels, must be in a state of activity. When all these organs are in health, the blood is kept pure, because by their combined activity the refuse, worn-out, poisonous elements are eliminated. But if there is a stoppage, a failure anywhere along the line — if any one of these organs fails to perform its duty — there is trouble. The blood is gradually but surely poisoned, and sickness or death is the result.

When Doctor Presnitz, the founder of the water-cure system of treating diseases, was at the zenith of his fame — and he made many famous cures by causing his patients to wash themselves — Tom Hood made fun of the system by writing the following :

"Disease is dirt: all pain the patient feels
Is but the soiling of the vital wheels.
To wash away the particles impure
And cleanse the patient, plainly is to cure."

But Hood, in his humorous way, spoke more truth than he was aware of. It is becoming more and more certain that disease *is* dirt, and cleansing away the "particles impure" is often equivalent to effecting a cure. Water is one of the best remedies in the world, as we shall see when we come to speak of medicinal baths. Just now we are discussing the importance of keeping the skin clean, and thus avoiding disease.

There is another reason for the daily bath in infancy which is not without weight in this consideration. It early establishes a pleasant and healthful habit which will continue all through life. Children who are neglected in this respect during early childhood will seldom acquire the habit of daily bathing, which is so essential to health and longevity, after reaching maturity.

Do not some babies take more kindly than others to the daily ablution?

There is no good reason why this should be so. Sometimes an infant is frightened by a rude or careless nurse, who plunges the baby into the water as if she intended to drown it. This, of course, even if accidental, is remembered, and the babe will thereafter be fearful of a repetition of its experience, and it will be difficult to get him into the water again. Doctor Starr has cunningly suggested a means of overcoming a repugnance to the bath by covering the tub with a blanket, upon which the child may be placed, and gently lowered into the water without seeing anything to excite its fear. A babe will rarely be frightened or fail to enjoy its bath if a little art is used in the beginning.

If the infant seems timid, put your cheek against its face; talk in soothing tones to it; bathe quickly, and do not splash the water so as to make a noise.

How long should a healthy baby remain in the full bath?

Not over three to five minutes. Then the child should be lifted from the tub, and be well and quickly dried — not by rubbing with the towel in a harsh or brusque manner, but by a sopping motion that takes up the moisture by absorption. In this drying process care must be taken to thoroughly dry those portions of the body where the natural folds of the body form crevices in which moisture may be retained. Such moisture may produce chafing and result in excoriations. The nose, the ears, and, indeed, all of the natural orifices, should receive due attention, and be thoroughly dried *before the baby is redressed.*

Do you approve of using powder after the bath, and if so, what is best?

If proper care is used after the bath, and all moisture is removed from the surface of the body, there is no advantage in using a baby powder. Indeed, the skin can be kept cleaner and healthier without it. When a careless nurse has allowed a baby's skin to become excoriated, or when some disorder of the skin seems to demand its employment, it is better to consult a physician, for there is no one baby powder that is suitable for all cases. Lycopodium powder, which is kept by all druggists, is sometimes very useful, and sometimes powdered starch or "Lubin's" powder may be admissible. A simple but very serviceable powder-bag may be made of fine cashmere, filled with ordinary corn starch or very finely sifted oatmeal. Usually, however,

cold cream or vaseline is all that is necessary over the excoriated parts.

Before dressing, it is well to spend a few minutes in rubbing the surface of the body over with the palm of the hand until the skin is in a healthy glow, when the bath may be considered finished for the day.

Would you continue the daily bath, even if the baby is ailing?

By no means. If the child is not well, suspend all rules until your physician can be consulted and the trouble defined. Take his advice in the matter. It may be very unwise to use the customary bath, and, in any event, it is well to suspend it pending developments. Sufficient bathing or washing to maintain ordinary cleanliness is, of course, permissible — indeed, obligatory — for every part of the child's body is liable to become soiled, and there can be no harm, under any circumstances, in simply cleansing the skin with a moist sponge, with or without soap.

Is it not wise to omit a daily bath with a thin, rather delicate child? I have heard that too much bathing was injurious in some cases.

No stereotyped rule should be laid down in this particular, nor in any other particular for that matter, for a strict observance of any fixed rule would be disastrous. Many infants fall by the wayside because the dictum of the doctor, or the inflexible character of the nurse, failed to comprehend the fact that age, temperament, condition, and vigor of health must vary all rules and modify all habits. The food must be varied as occasion requires, and so must the exercise, sleep, and all the daily routine of the nursery. This statement applies with special force to the bath. Judgment, discretion, and common sense must be exer-

cised in this apparently simple duty, and the hour, the duration, and the manner of bathing must be changed to suit special cases and emergencies. One child may be benefited by a cold or cool bath that would be highly injurious to another. In some cases only enough bathing to insure cleanliness should be indulged in, while, with a robust, vigorous child, there is scarcely any need of limitations or restrictions.

Let me give you this caution, in closing: Never bathe a baby in a cold room. If the bath has been begun, and you find the temperature too low, let the bath be ended as quickly as possible, and the infant quickly dried and wrapped in warm blankets before the body has time to become seriously chilled.

Are there any other precautions that you think worthy of mention in the matter of the daily bath?

I have failed to mention one thing which is very important, and that is the necessity of scrupulous care in keeping the appliances of the bath clean. The bath-tub should be thoroughly rinsed and dried after each bath; the wash-cloths and the towels should be carefully dried and aired before being again used.

Why do you advocate the use of a flannel wash-cloth in preference to a sponge?

I did not intend to be so understood. Both are essential to a correct bath. The flannel is soft and is better for cleansing the skin. It can be used with better facility to enter the clefts and folds of the skin, while the sponge is better for finishing the bath, for it will hold water better, and by its means a miniature shower bath can be improvised for washing off the soap, and cleansing the skin of dirt which the wash-cloth has loosened.

What is the best time for giving the sponge bath?

In the morning just before the second nursing. All baths should be given on an empty stomach — never after a hearty meal. The temperature of the sponge bath may be lower than the full bath — say 80° or 85° F. The preparations for the bath are practically the same as for the full or cleansing bath, but it may be of much shorter duration — not exceeding eight to ten minutes — and the sponge bath should always be followed by rubbing the body with the palm of the hand until the surface of the body is dry and in a perfect glow. Rubbing the back after a bath is especially grateful to the young babe.

Is there any special care of the scalp which I should know about?

The washing of the head is a most important matter. The head should always be wet before the body is immersed in the full bath, and it should be well but gently rubbed while in the bath to insure against an accumulation of scurf on the scalp. The circulation about the head is very active, and the sebaceous glands of the scalp are very active in infancy. Unless care is used to keep the head free from scurf, infantile eczema is very prone to develop itself. After the bath the nurse must be very careful to dry the hair carefully. It should first be dried by means of a soft towel and then brushed out with a fine hairbrush.

Never use a comb on an infant's head. It thins the hair by pulling it out by the roots, and irritates the scalp, thereby provoking eruptions.

Should any artificial dressing be put on a baby's hair?

No, never. If the hair is washed and brushed, the oil from the scalp will keep it soft, glossy, and healthful.

In case of chafing or excoriations, should the bath be modified in any way?

In such cases stop the use of soap altogether. The probability is that the child's skin is naturally irritable, and if so, soap will only make bad matters worse. Substitute borax for soap, say a tablespoonful of powdered borax to the water in the tub.

Should this not relieve, is there any other modification of the bath that you can suggest?

A bran bath is sometimes very useful in such cases, or one with oatmeal instead of wheat bran.

How should a bran bath be prepared?

A pint of wheat bran, which can be bought at any feed store, should be put in a bag made of cheese-cloth or common muslin, and this put into the water of the bath. Leave it there for a few minutes, squeezing it meanwhile until the water is made milky by it, or like very thin porridge.

Sometimes a salt bath, prepared by putting a teacupful of common salt, or sea salt, to each two gallons of water, is a useful expedient. A salt bath is very stimulating, and has a tendency to prevent taking cold after the bath. Salt water is also somewhat astringent, and tends to check unnecessary and abnormal perspiration.

EXERCISE.

You spoke, a moment ago, about the necessity of exercise for infants. Will you tell me how a young babe can get exercise?

If you watch a young babe while it is awake you will see that it is in constant motion; arms and legs are going incessantly, and this is quite as it should be. An infant must have such exercise as it can get, and nature provides that it shall not be still. It reaches

for everything it sees; it throws up its hands and feet in the ecstasy of its enjoyments. When it goes out in its perambulator it can scarcely be kept within unless it is strapped in. After the child gets to be five or six months old it tries to stand, and makes its first attempt at creeping. Creeping is a most excellent form of exercise, but the floor must be free from draughts of cold air.

Do you approve of tossing an infant much about, after the fashion of fond papas and bachelor uncles?

I do not. I think it cruel and dangerous. I have known of several accidents from falls in consequence of the fright which the baby has felt. Violent tossing of a young babe ought never to be allowed. It has been known to bring on convulsions. It is especially important to keep the baby quiet immediately after eating. If he be tossed directly afterward, it will necessarily interfere with his digestion, and is liable to produce serious sickness. Let the baby's exercise be gentle and moderate, as becometh one of his tender age.

Do you think well of putting the baby on the floor so as to allow it to kick and crawl?

Yes, if the temperature of the room is so regulated that the baby will not take cold. Spread a soft but firm mattress on the floor, or a blanket or rug, away from the door, and let the baby lie there, and stretch and sprawl and kick to its heart's content. If it happens to roll off the mattress it can not bump itself very hard. The exercise will do it good, and the enjoyment it receives will amply compensate for any slight bruises it may accidentally get. Care should be taken, however, to avoid draughts, which are especially prevalent about the floor at the door openings and about the washboards under the windows. Select the middle of

the room, and, if the house is uniformly heated, open the doors into the hall and adjoining rooms, so that there may be no crevice draughts. Then let the baby kick, and laugh, and crow, and stretch its back and legs. It is a pretty sight to see, which parents and relatives and friends will all enjoy.

What do you think of "massage" for infants?

I think very highly of it in cases of weakness, prostration, or paralysis. But the massage, to be of any good in such cases as I have mentioned, should be given by a professional masseur, who knows, by education and experience, just how to give it and how long to continue it. Massage for therapeutic purposes — that is, when given to a sick baby with a definite object in view — can not be given by an inexperienced mother or nurse, for it is capable of doing harm as well as good. But it is not in case of illness nor even weakness that we are now talking of exercise. Massage is really only a scientific name for *passive exercise*, and, as such, may be given by nurse or mother to any child who is strong enough to bear it. As passive exercise, it is of great hygienic value, and should be employed to a greater or less extent with every well baby daily. Each day, after the bath and after the infant's body is well dried, let gentle friction be made with the bare hands over the arms, the legs, and over the back and abdominal walls. A few minutes thus spent will improve the circulation and put the skin in a healthy glow. The minute blood vessels (capillaries) are stimulated, the blood is invited to the surface, internal congestions are obviated, and the nutrition of the skin is promoted. It also adds vigor to the entire body. The palm of the hand should always be used, and no oil or water is necessary, except in starvelings. Of this and other treatments we shall

speak hereafter. In cases of constipation it may be said here that gentle massage of the large bowel (the colon) from right to left is very effectual in promoting natural peristalsis, which is essential to the physiological action of the bowels. When the ankles or legs are weak, friction of the weak parts is of great benefit, but general frictions and rubbings should be conjoined with special exercises, such as are given in the "Swedish movement cure." As a quieting means for restless babies, massage is also very valuable. An infant must be in pain or must be quite ill that will not go to sleep after a warm bath and gentle rubbing of its back and limbs.

Does not creeping on the hands and knees tend to develop and strengthen the lungs?

All exercise does this, creeping probably no more than walking, and not so much as running and jumping. As creeping is almost one of the first exercises taken involving the entire body it should be encouraged, for it does promote deep breathing and consequent expansion of the lungs.

How should a baby be lifted?

A young baby should always be lifted with one hand supporting the head, while the other hand supports the hips. In carrying a young babe for any distance, it is best thrown over the shoulder, so that its body rests against the breast, while the arm supports the child's body.

Should a young infant or child ever be lifted by its arms?

I have known of several instances where a child thus lifted suffered from sprain of the wrists or shoulders, and I have come to believe that there is much danger

in so doing. The joints and muscles, and indeed the whole physical mechanism of a child, is very loose, and easily strained. Always, therefore, lift a child by placing the hands under the infant's arms, and never by grasping the wrists.

TEETHING.

Now, Doctor, will you please tell me about the baby's teeth? When do they first appear?

To begin with, let me say that teething is a perfectly natural or physiological process. It is an evolution which should create no more excitement or disturbance in the baby's organism than any other evolution which marks growth and development. Theoretically there ought to be as much disturbance at any other marked epoch in the child's progress toward maturity, but practically there is not. A perfectly healthy child should cut its teeth without pain and without discomfort. Most children do, however, experience pain more or less pronounced, which is more likely to be felt while the teeth are low down in the gums than just before they cut through. There is doubtless a sensation of fullness about the gum as the tooth rises out of its socket, and in numerous children this is exaggerated into actual pain. In some cases, when the gum is full and tense, the coming tooth is held down against the dental nerve which enters the tooth at its root. This causes intense pain and makes the baby nervous, restless, or even cry with anguish.

What are the extreme limits of variation in teething?

While the average age at which dentition begins is from five to seven months, some have cut teeth as early as three months; indeed, there are instances on record of infants having been born with teeth. Shakespeare thus refers to King Richard the Third:

"York—*Marry, they say my uncle grew so fast*
That he could gnaw a crust at two hours old.
'Twas full two years ere I could get a tooth;
Grandam, this would have been a biting jest."

There are also instances on record of adults who have never cut any teeth.

With some children in apparently good health, teething does not come until they are a year old, or older, but as a rule absence of teeth at twelve months of age is suspicious of malnutrition or rickets.

Do children ever have convulsions from teething?

Yes; but teething alone is not the cause of convulsions. It is only the last straw. A healthy babe rarely, if ever, has spasms from this cause alone. A nervous and irritable child, who is poorly nourished and whose system is already deranged by previous ill-health, is quite apt to be still more unstrung by the process of teething. There are exceptions to this rule. I have seen children, apparently robust and in perfect health, who have had spasms while getting their teeth. In such cases I have found the gums very tough and hard — the tissues so thick and tense that the coming tooth was held down against the dental nerve, and nature was unable to release the gum-bound tooth without assistance. Lancing the gum is here of great value.

Then you believe in lancing the gums in difficult dentition?

Yes, I think lancing of the gums, if properly done, and at the proper time, has often saved a child's life, and no end of needless suffering. But it must be remembered that teething is a normal process, and is often, indeed ordinarily, attended with so little discomfort that it would be sheer folly to interfere with it in any way. In very many cases the teeth come along in

their natural order and in the natural way and without producing any perceptible sensation of pain. Lancing of the gums in such cases would be very reprehensible.

What is the object of lancing the gums, and in what way does it afford relief?

It is not to hasten the coming of the tooth, for this it rarely does. Its purpose is to relieve the tension of the thick and swollen gum which binds the tooth down and crowds it against the dental nerve at the root of the tooth, causing pain and irritation.

Does the gum over a tooth ever need lancing more than once?

Yes, sometimes it is well to lance it several times, but usually, if the lancing is thoroughly done and the crown of the tooth exposed, it will not need repeating.

But does not the cut which is left after lancing heal over so firmly as to retard the tooth, and so make bad matters worse?

Never; nature never mends a cut or wound with as good material as she used originally. In other words, a cicatrix (scar) is never of as firm texture as the original tissue. The idea, which is more or less prevalent, even among medical men, that lancing the gums is injurious and tends to retard the progress of teething, is an error founded on prejudice. It can never do harm if properly done, and may oftentimes, as stated before, do great good.

What are the indications for lancing?

Whenever the teeth are tardy in their coming, and when, in addition to the tardiness, the gums are feverish, red, and swollen. Lancing is imperative when, besides the indications just given, the child is fretful and can not sleep, or jumps and starts during sleep.

When are infants most apt to suffer from teething?

I have already intimated that the object of lancing is not to hasten the coming of the tooth. When the tooth is nearly through, and only a film of gum covers the crown of the tooth, there is no need of surgical interference. This thin, filmy covering will soon yield to the oncoming tooth without aid. The greatest suffering to the child is when the tooth is deep down in the gum, and when there is a considerable thickness of tissue overlying the tooth. It is, therefore, early in teething and not late in the process that surgical assistance is demanded.

What teeth are most likely to cause the child trouble?

The molars, or double teeth, are usually the hardest to cut, and next to them the canine, or, as they are popularly called, the stomach and eye teeth.

At what age does the eruption of the teeth begin?

The time is quite variable, but on an average the first tooth is cut when the infant is five or six months of age. As I have already stated, there are cases on record where babies have been born with teeth, and sometimes again the child is eight or nine months old before the first tooth is acquired. The early age and the ease with which the teeth are cut are generally good indications of the healthfulness and vigor of the child. As a rule it may be stated that girls are more apt than boys to cut their teeth early and easily; and it may also be stated, as a matter of almost universal observation, that bottle-fed babies, as a class, are more tardy in cutting their teeth than those fed at the breast.

Is there any regular order in which the teeth make their appearance?

Yes, but this order, like all other physical phenomena, is flexible and subject to much variation. One rule is absolute in normal dentition, and that is a pause or interval of rest between the eruption of separate groups of teeth.

The first group of milk teeth — as the first set of teeth is called — consists of the two central incisors in the lower jaw. After this comes the first pause, lasting from three to six weeks, followed by the appearance of the second group, consisting of the four upper incisors. Of these the central upper incisors appear first, closely followed by the lateral upper incisors. Then follows a second pause, lasting from one to three weeks, followed by the eruption of the third group, namely, the four anterior molars and the two lower lateral incisors. The teeth of the third group are not all cut at once or in any fixed and invariable order, although the anterior molars in the upper jaw usually come first, and are followed by the incisors and then by the molars of the lower jaw. After the third group has appeared there is another pause of generally two or three months, no more teeth appearing until the age of eighteen or twenty months, at which time the fourth group, the canines, are cut. After another pause of from two to four months, the fifth and last group, the posterior molars, appear, and the first dentition is completed. Thus it will be seen that a baby a year old should have from six to eight teeth, and possibly more, and that by the time it is two and one-half years old all of the temporary teeth should be through. The baby should then have its full quota of twenty teeth and will get no more until it is six or seven years of age, when the permanent teeth begin to replace the milk or deciduous set. Let me make this plainer to you by the following table:

ORDER OF ERUPTION OF MILK TEETH.

First group — Two lower central incisors — 7 months.

Pause — 3 to 6 weeks.

Second group — Four upper incisors — 8 to 10 months.

Pause — 1 to 3 months.

Third group — Four anterior molars and two lower lateral incisors — 12 to 15 months.

Pause — 2 to 3 months.

Fourth group — Four canines (eye and stomach teeth) — 18 to 24 months.

Pause — 2 to 4 months.

Fifth group — Four posterior molars — 20 to 30 months.

What are the early signs of teething?

Sometimes, usually several weeks before the first tooth appears, there is an increased flow of saliva; the infant dribbles or drools, and eagerly puts anything it can into its mouth and bites or chews on it. It is very partial to its tiny fist, and every now and again, as it rubs or chews on the sensitive gums, it cries out from pain. Even under circumstances which are perfectly normal the edges of the gums lose their sharp ridge and become swollen, rounded, and reddened as the teeth approach the surface. The mouth is more or less feverish, and water or the breast is eagerly taken to assuage thirst.

Do bottle-fed babies get their teeth as easily and promptly as those that are nursed at the breast?

As a rule they do not. Bottle-fed babies, as a class, are more tardy in cutting their teeth. Still it often happens that breast-fed infants are slow in teething, but if well and hearty and strong, this need not occasion any anxiety, provided the procrastination is not carried too far. Whether nursed at the breast or bottle-fed, if no teeth have appeared when the infant is a year old, it

may be assumed that there is something radically wrong with its nutrition. If the fault is not speedily corrected there is danger of rickets.

Does delay in cutting the teeth necessarily imply difficulty and danger?

It does not always do so, although the two are often associated. Sometimes the most robust and precocious infants have great trouble in getting their teeth, while, on the other hand, delicate and puny subjects pass through the ordeal with little or no trouble.

What is the significance of the "second summer," so called, that experienced mothers dread it so much?

If you have read carefully what has already been said about the order of the eruption of the teeth, you will have noticed that the first molars come between the twelfth and eighteenth months, and that the canine teeth are to be expected between the eighteenth and twenty-fourth months. These two groups of teeth are most prone to make trouble, and when the child is born at such a time of the year as to bring the eruption of these during the hot summer months, illness of some sort may be anticipated. Even with robust children this is a time of peril, and sudden illness often comes on which is sometimes fatal. This is partly due to the heat of the summer, excessive heat being always depressing; and partly from the fact that all food is apt to be more or less tainted in hot weather. This is true of cow's milk as well as of other foods. The second summer, too, is the time when the child is old enough to want everything it sees, and puts everything it gets hold of into its rapacious mouth.

The stomach and eye teeth are longer in process of evolution, and make their appearance only after the infant's system has already been strained and more or

less unstrung by previous teething. For the treatment of the diseases incidental to this period, see chapter on dentition.

Do you approve of giving a child that is teething either coral or ivory to bite, or is there any artificial aid to teething which is helpful while at the same time harmless?

Any hard, unyielding substance is objectionable, because it tends to harden the gums, and by so doing it delays the teeth, while it causes pain to the infant, who knows no better than to bite hard on whatever it can get hold of. A soft rubber ring, or a soft strip of wash leather, is not objectionable, but the rubber nipple of the nursing bottle should never be used for this purpose, as the child will inevitably suck wind through the perforations and suffer from wind colic.

Is there any objection in permitting the baby while teething to suck its thumb?

Not in the least. The thumb is the best "gum-stick" in the world. It is convenient and of just the right size, and the amount of pressure on the sore gums can be regulated to a nicety. "It is handy (in every sense of the word), and it is of the proper consistence, neither too hard nor too soft; there is no danger, as of some artificial gum-sticks, of its being swallowed, and thus choking the child. The sucking of the thumb causes the salivary glands to pour out their contents, and thus not only to moisten the dry mouth, but assist the digestion. The pressure of the thumb eases, while the teeth are 'breeding,' the pain and irritation of the gums, and helps, when the teeth are sufficiently advanced, to bring them through the gums." Sucking of the thumb will often make a cross baby contented and happy, and will frequently induce a restless one to fall into a sound and refreshing sleep. Truly may the

thumb be called the baby's comfort. By all means, then, let your child suck his thumb whenever he likes and as long as he chooses to do so.

But if an infant be allowed to suck his thumb, as you advise, will it not become a habit lasting longer than needful, and finally be a difficult matter to break him of?

I remember to have read in the Ingoldsby Legends that —

"*Perhaps it's as well to keep children from plums,*
And from pears in their season, and sucking their thumbs."

After all of the first set of teeth have been cut, that is to say when he is about two and one-half years old and there is no longer any need of a gum-stick, if the habit has become confirmed he can readily be broken of it by smearing the thumb occasionally with a potion made of aloes and water. One or two tastes of the bitter aloes will take away all pleasure from his former enjoyment and the habit will at once be broken.

What can be done to prevent excessive dribbling, which is sometimes so copious as to wet his clothes through and through, and must make him liable to catch cold?

His chest should be protected by a bib of birdseye cotton, or, perhaps still better, of flannel. An oil silk bib is also useful when the flow of saliva is very great.

Is a child during the process of teething more subject to disease, and if so to what complaints, and in what manner are they to be treated?

I prefer to postpone the consideration of all forms of disease and of therapeutic measures until we come to speak of diseases in general, when the subject will be fully and thoroughly discussed. (See Part IV, Diseases of Infancy.)

What causes some baby's teeth to decay almost as soon as they are cut?

It is not so much the fault of the teeth as it is the management of the infant's food and feeding. Decayed teeth, like infantile eczema, is largely, and oftentimes wholly, due to a failure on the part of the nurse or the mother to keep the baby's mouth and gums clean. Decay of the teeth always begins from without the tooth — never from within. It is first caused (or brought about) by the formation of an acid from the decomposition of food. The decomposition of the curd of milk may form an acid which will attack the enamel of the baby's tooth and soon destroy it. These acids are the direct product of bacteria or small — microscopically small — vegetable growths of various forms and devious nature, which cause a great variety of diseases, decay of the teeth among others. These bacteria develop rapidly whenever they find congenial soil, and this, for some species, consists in dirt or decomposing animal or vegetable matter, accompanied by warmth and moisture. Teeth which are not kept scrupulously clean afford a most admirable nest for their cultivation, and decay of the teeth quickly follows. Many mothers who are excessively neat and careful in every other particular concerning the baby are careless about the first teeth, not knowing how easily they are affected by neglect.

The germs which are most active in destroying the enamel of the teeth are bred in an acid medium, and are impotent when the secretions of the mouth are alkaline, that is to say, in a normal condition. A sour stomach will decay the teeth. Hence the importance of correcting all signs of acidity with promptitude.

The addition of lime-water or bicarbonate of soda to

the baby's milk is a corrective, and should not be forgotten.

But as this tendency to acidity of the stomach depends very generally upon a somewhat morbid state of the system in general, such homeopathic remedies as calcarea carb. should be given internally, in a small tablet of the 3x trituration, three or four times daily.

Unless the child's symptons call for other remedies, calcarea carb., given as just stated, will do much to preserve the teeth, especially if proper care is taken to keep the teeth clean.

Too much emphasis can not be placed on the importance of keeping the baby's mouth clean. It should receive attention with every bath. A bit of absorbent cotton or old linen should be wrapped about the finger of the nurse, and after being wet in fresh, boiled water, the gums should be gently but thoroughly gone over. After each feeding, the toilet of the mouth should be repeated, and as soon as the teeth appear they should be inspected daily, in order to see that no tartar accumulates on them. If this does occur, it must be scraped off with a bit of pine stick, care being taken not to injure the gum.

After the teeth have pierced the gum, a very soft toothbrush may be used with a little precipitated carbonate of lime or prepared chalk. Only watchfulness and care will prevent premature decay of the teeth. Remember, always, that decay of teeth begins from the outside, and, by care, can always be prevented.

PART IV.

DEPARTMENTS FROM HEALTH,

OR

THE AILMENTS INCIDENTAL TO BABYHOOD

AND

HOW TO MEET THEM.

"Ah! What would the world be to us
If the children were no more?
We should dread the desert behind us
Worse than the dark before."

—LONGFELLOW.

CHAPTER I.

SIGNS OF SICKNESS.

Now, Doctor, will you kindly tell me of those early signs of illness with which a mother should have knowledge so as to be able to administer simple remedies herself, or when to summon a physician?

In answering this question I wish you to understand that it is only those early symptoms which show a departure from health which I shall attempt to describe. Infants become ill oftentimes very suddenly, and often serious illness begins abruptly. I shall only indicate those symptoms which you can readily appreciate and understand, in order that you may be warned of impending danger, and perhaps give needed aid before your medical adviser can respond to your call.

What, then, are the first signs of illness in a young infant?

Any essential deviations from that condition which I have tried to make plain to you in the preceding pages are important for you to recognize. Any disturbance or irregularities of function, however slight, should be noted, and if prolonged should cause you to call your family physician. Whenever there is observed any marked change in the countenance or in the external appearance of the baby, such as an unusual pallor or persistent flush, an unwonted dullness of the eye, an indisposition to eat or to play, a loss of accustomed gaiety, unusual listlessness, disturbed sleep, uncommon wakefulness, sudden starting or jumping while asleep, awakening with apparent fright, an unusual degree of somnolency, the occurrence of vomiting, accompanied

with paleness, or paleness alternating with a suffusion of redness more or less deep, increased heat of the hands and feet, or of the entire surface, unusual and persistent coldness of the extremities, unaccustomed fretfulness, frequently repeated or prolonged fits of crying, or a marked change in the character of the cry, frequent or constant corrugation of the brow, twitching of the muscles of the face, rejection of the breast or of food, unusual movements of the head and limbs, crying or moaning whenever the body is moved — any of these symptoms, if of any considerable duration, indicate that the babe is not entirely well, and may mean that it is seriously ill. If, after giving such simple remedies as I shall presently advise under the proper head, the baby is not quickly bettered, you had best send for your regular family physician.

Will you mention some other signs of sickness that a mother ought to be able to recognize?

Any material rise in temperature is, of course, indicative of illness, but infants are thrown into a fever by very slight causes, and a little fever may be of but trifling import in the absence of other symptoms.

What significance has vomiting in infancy?

In the absence of other symptoms of ill health it has no significance whatever, except to indicate that the stomach is overloaded. An infant vomits with the greatest ease, and if a nursing babe throws up milk *immediately* after leaving the breast, no significance should be attached to it. If, on the other hand, the milk or other food remains in the stomach for a time and then comes up sour, it indicates an irritable condition of the stomach which can not be remedied too quickly.

"A slight irritation of the gastro-intestinal mucous

membrane of the infant will often, by being suddenly reflected to the brain, give rise to a convulsive attack, or produce some other and equally serious train of symptoms, which might have been prevented by the early detection and removal of the primary irritation." — CONDIE.

What significance has posture in relation to illness?

Doctor Griffith, in his "Manual for Mothers and Nurses," has this to say regarding position: "The position assumed in sickness is a matter of great importance. A child feverish or in pain is usually very restless, even when asleep. When awake it desires constantly to be taken up, put down again, or carried about. Sometimes, however, at the beginning of an acute disease it lies heavy and stupid for a long time. In prolonged illness, and in severe acute disorders, the great exhaustion is shown by the child lying upon its back, with its face turned toward the ceiling, in a condition of complete apathy. It may lie like a dog, scarcely breathing for days before death takes place. Perfect immobility may also be seen in children who are entirely unconscious, although not exhausted. A constant tossing off of the covers at night occurs early in rickets. A baby shows a desire to be propped up with pillows, or to sit erect, or to be carried in the mother's arms with its head over her shoulder, whenever breathing is much interfered with, as in diphtheria of the larynx and in affections of the heart and lungs. The constant assumption of one position, or the keeping of one part of the body still, may indicate paralysis. When, however, a cry attends a forcible change of position, it shows that the child was still because movement caused pain. Sleeping with the mouth open and the head thrown back often attends chronic enlargements of the

tonsils in young children, although it may be seen in other affections which make breathing difficult. In inflammation of the brain the head is drawn far back and held stiffly so. Sometimes, too, in this disease the child lies upon one side, with the back arched, the knees drawn up, and the arms crossing over the chest. A constant burying of the face in the pillow or in the mother's lap occurs in severe inflammation of the eyes."

Should a healthy baby sweat about the head when no perspiration is noticeable elsewhere?

If an infant sweats about the head whenever it goes to sleep, regardless of the weather, it indicates weakness — debility — and is one of the first signs of that bone affection called rickets. If the sweating is only occasional, and occurs during the hot weather of summer, it signifies nothing.

What does it mean if a child is frequently troubled with jerking and twitching of the muscles?

It always means an irritation of some nerve somewhere, and is common in indigestion (gastritis), and also in diarrhœa, and is present in all brain affections. Such symptoms are often the precursors of convulsions. Sudden starting in the sleep, with or without a cry, has the same significance.

THE CRY.

What kind of a cry is indicative of sickness?

When it is too long or too frequent. As heretofore stated, it is natural for every child to cry some, but it is quite unnatural for a child to cry all the time. The abnormal cry is a sort of moaning, or a fretful cry, and oftentimes it is only a feeble whine.

How can I distinguish the cry of illness from that of temper?

The cry of illness is more a worrying than a real cry, while that of temper is boisterous.

What is the cry of pain?

It is strong, sharp, and sudden, but it is not usually continuous. It is accompanied by contractions of the features, drawing up of the legs, and other symptoms of distress.

What cry is indicative of earache?

It is unappeasable, but strong and long drawn out. It is accompanied, if occurring in a child old enough to use its arms, by motions pointing to the seat of trouble. A young babe, however, is scarcely ever able to locate the source of its pain, and but little dependence is to be placed upon these subjective symptoms.

When a child ceases crying after being nursed, does that always indicate that hunger was the cause of the cry?

Not always, for colic is sometimes relieved by the inflow of warm milk into the stomach. In such cases the relief is only temporary, and after a short interval the pain returns worse than ever.

What does it signify if a child cries when it is lifted up or is handled?

It means rheumatism or acute rickets. If it cries only when the chest is pressed upon, as in lifting it, it may mean pleurisy. A healthy child loves to be lifted, handled, and played with.

What sort of cry is indicative of brain disease?

The cry which is characteristic of acute inflammation of the brain—meningitis—is a single shrill, piercing cry uttered at intervals, and occurs now and then even when the child seems asleep.

What is the character of the cry in bronchitis and pneumonia?

In any disease which obstructs the air passages the cry is short and the child cries but little, for the reason that it can not hold its breath long enough for a prolonged cry.

What does it mean when a nursing child drops the nipple and cries, while at the same time it seems hungry?

It may mean several things. A nursing babe behaves this way when the milk-ducts are obstructed, as in its early attempts, or when it can not grasp the nipple from tongue-tie; in an older child it may behave thus from sore throat, making swallowing difficult; it may also be due to sniffles, which makes it difficult to breathe and nurse at the same time.

What other forms of cry are worthy of notice?

If a cry follows or accompanies a fit of coughing, it indicates some painful affection of the chest; if it precedes or follows an evacuation of the bowels, it means intestinal pain, such as colic, hemorrhoids, or anal excoriation. A loud, brazen, or metallic cry is a precursor of spasmodic croup; the cry is often like a bark, while a faint, whispering, almost inaudible cry indicates that more serious form of croup known as *membranous.*

"TANTRUMS."

When a child is two years old or older and gets into a fury whenever its will is crossed, yells and stamps its feet, and will not be pacified, what is to be done?

Great care and tact is necessary to control these nervous children. In some cases the crying spells are due solely to temper and to over-indulgence. Such children, if otherwise strong, should be taught self-control, and their whims should not always be catered

to. Firm measures, even carried to the extent of mild punishment, are sometimes necessary. In other cases these "tantrums" are indicative of irritability of the brain, which may easily be carried to actual inflammation unless great care is taken to arrest the paroxysm. It is useless to argue with these children. To attempt to reason with them only makes matters worse. It only exasperates them and renders them all the more unreasonable. With delicate and over-sensitive children it is best to avoid such scenes, as far as possible; but when the "tantrum" is "on" I have found nothing so certain to afford prompt relief as bathing the head in cold water. Wet a towel in cold water and swathe the head with it. I have rarely had to repeat this prescription, or to continue the treatment for more than a few minutes.

But if a child is peevish and yet in apparently good health, have you any plan to offer to allay his irritability?

It is often very difficult to tell if a child is sick or only cross and unreasonable. We should never forget that the "sorrows of childhood," however trifling and absurd they may seem to us who are older, are very real to the child. We should be very sympathetic, and under no circumstances should a parent lose temper. Be patient, considerate, and, above all things, *loving*. The most obstinate and unreasonable child can be won over and made happy and smiling by *kindness*, *tact*, and *love*.

Chevasse has covered this point so well that I quote the following paragraphs:

"A child's troubles are soon over; his tears are soon dried. '*Nothing dries sooner than a tear*'—if not prolonged by improper management.

"'*The tear down childhood's cheek that flows*
Is like the dewdrop on the rose;
When next the summer breeze comes by
And waves the bush, the flower is dry.'

"Never allow a child to be teased; it spoils his temper. If he be in a cross humor, take no notice of it, but divert his attention to some pleasing object. This may be done without spoiling him. Do not combat bad temper with bad temper, noise with noise. Be firm, be kind, be gentle, be loving, speak quietly, smile tenderly, and embrace him fondly, but *insist upon implicit obedience*, and you will have, with God's blessing, a happy child.

"Speak gently to a child; speak gently to all, but more especially speak gently to a child. '*A gentle voice is an excellent thing in woman*,' and is a jewel of great price, and is one of the concomitants of a *perfect* lady. Let the hinges of your disposition be well oiled. How many there are who never turn upon the hinges of this world without a grinding that sets the teeth of a whole household on edge! Pleasant words ought always to be spoken to a child. There must be neither snarling, nor snapping, nor snubbing, nor loud contention toward him. If there be, it will ruin his temper and disposition, and will make him hard and harsh, morose and disagreeable.

"Do not be always telling your child how wicked he is, what a naughty boy he is, that God will never love him, and all the rest of such twaddle. Do not, in point of fact, bully him, as many poor little fellows are bullied. It will ruin him if you do; it will make him, in after years, either a coward or a tyrant. Such conversations, like constant droppings of water, will make an impression, and will cause him to feel that it is of no use to try to be good — that he is hopelessly wicked.

Instead of such language give him confidence in himself; rather find out his good points and dwell upon them; praise him where and whenever you can, and make him feel that, by perseverance and by God's blessing, he will make a good man. Speak truthfully to your child; if you once deceive him, he will not believe you for the future. Not only so, but if you are truthful yourself you are likely to make him truthful; 'like begets like.' There is something beautiful in truth. A lying child is an abomination. Sir Walter Scott says '*that he taught his son to ride, to shoot, and to tell the truth.*'

"As soon as a child can speak, he should be made to lisp the noble words of truth, and to love it, and to abhor a lie. What a beautiful character he will then make! Blessed is that child who can say:

> "'*Parental cares watched o'er my growing youth,*
> *And early stamped it with the love of truth.*'

"Have no favorites, show no partiality; for the young are very jealous, sharp-sighted, and quick-witted, and take a dislike to the petted one. Do not rouse the old Adam in them. Let children be taught to be '*kindly affectioned, one to another, with brotherly love;*' let them be encouraged to share each other's toys and playthings, and to banish selfishness.

"Attend to a child's *little* pleasures. It is the *little* pleasures of a child that constitute his happiness. Great pleasures to him and to us all (*as a favorite author remarks*) come but seldom, and are the exceptions, and not the rule.

"Let a child be nurtured in love. It will be seen that I hold this law of kindness as the Alpha and Omega of education. I once asked one, in his own house, a father in everything but the name — his authority unquestioned, his least word held in reverence, his

smallest wish obeyed — 'How did you ever manage to bring up these children?' He said, '*By love!*'

"Let every word and action prove that you love your children. Enter into all their little pursuits and pleasures. Join them in their play, and *be a child again!* If they are curious, do not check their curiosity, but rather encourage it, for they have a great deal — as we all have — to learn, and how can they know if they are not taught? You may depend upon it, the knowledge they obtain from observation is far superior to that obtained from books. Let all you teach them, let all you do, and let all you say, bear the stamp of love. Endeavor, from first to last, in your intercourse with your children, to let it bear the impress of love. It is not enough that you feel affection toward your children — that you are devoted to their interests; you must show in your manner the fondness of your heart toward them.

"Young minds can not appreciate great sacrifices made for them; they judge their parents by the words and deeds of every-day life. They are won by *little* kindnesses, and alienated by *little* acts of neglect or impatience. One complaint unnoticed, one appeal unheeded, one lawful request arbitrarily refused, will be remembered by your little ones more than a thousand acts of the most devoted affection.

"A placid, well-regulated temper is very conducive to health. A disordered or an overloaded stomach is a frequent cause of peevishness. Appropriate treatment in such a case will, of course, be necessary."

What is the most significant symptom of chronic illness in an infant?

Loss of weight. When this is accompanied with other symptoms of disturbance, you may be sure the baby is ill.

What does it signify when a baby only half closes its eyes when asleep?

Incomplete closure of the eyelids, rendering the whites of the eyes visible during sleep, may occur from simple colic, or when sleep is rendered unsound by pain anywhere. It is a common symptom in all acute and chronic diseases of serious type. Twitching of the eyelids, associated with oscillation of the eyeballs or squinting, are usually present when convulsions are threatening.

What other symptoms are worthy of special notice in this connection?

Dilatation of the orifices of the nose, with the wings of the nose alternately contracting and expanding. These signs point to embarrassment of respiration. We see it in bronchitis, pleurisy, and pneumonia.

Contraction of the brows indicates pain in the head; sharpness of the nostrils, pain in the chest; and a drawn look of the upper lip, pain in the abdomen.

One of the first and most common signs of ill health in an infant is restlessness. Instead of being composed and placid, a sick baby is fretful and peevish, cries, and is only pacified for a moment.

Does vomiting always mean sickness in a baby?

No. As I have already stated, an infant vomits with greatest ease and with very slight provocation. If a nursing baby takes more milk into its stomach than it can hold it vomits up the excess. If milk is thrown up curdled or in sour masses it is a sign of indigestion. This will be explained more fully when treating of infant feeding.

What is the average capacity of the stomach in the new born?

Less than one fluid ounce.

Are any of these symptoms you have mentioned immediately dangerous?

Yes, some of them are especially significant of deep-seated trouble, while others are trifling in their importance. There is scarcely one of these symptoms which, if lasting more than a few hours, may not be serious enough to warrant the advice of an experienced physician. This is especially true because many of the serious maladies of infancy, which, if recognized promptly, and intelligently treated, may be promptly arrested, while if neglected and allowed to become fully developed may soon go beyond the control of the most judicious plan of treatment.

Is this all you have to say about the signs of illness in an infant?

There is one very important matter that I have as yet failed to mention. It is the baby's urine. I have indicated the color and amount of urine a healthy babe should pass, but in sickness the amount is subject to such variation, both as to quantity and quality, as to require attention.

What does it indicate if the baby's diapers are deeply stained, or the chamber is lined with red sediment?

This brick-dust sediment is from an excessive secretion of the natural coloring matter of the urine, which excess comes from congestion or inflammation of the kidneys. (See paragraph on rheumatism.) In bad cases of indigestion the urine is highly tinged, but the normal urine does not stain either napkin or chamber.

What is generally the trouble if a young infant or child cries whenever it voids its urine?

Pain in urinating may come from some specific infection of the urethra or from the acrid character of the

urine itself. Babies who have had a prolonged diet of animal food, to the exclusion of vegetables, are apt to suffer from an excess of urea in the blood which the kidneys can not eliminate. In such cases crystals of uric acid are apt to form, which are voided with pain. In such cases the meat diet should be immediately restricted and farinaceous foods substituted — not wholly, but mostly. Such a condition rarely occurs in a child under two years of age, but more often in older children who have been living largely on some form of meat juice or beef tea.

Can anything else be done under these circumstances to remedy the difficulty?

Lessen the amount of meat extracts and other animal food. Give the child plenty of fresh out-of-door air and keep the skin in good order with warm baths and massage (rubbings and frictions).

Is anything else necessary?

Make the cereal food especially thin; give plenty of distilled water to drink and in this way the kidneys will be soon flushed out and all will be well.

THE TEMPERATURE.

What significance has a rise of temperature in infants?

A slight rise in temperature does not usually have the same meaning in young children that it has in adult life, especially if the fever is only of short duration. It must always be borne in mind that all during infancy and childhood fever is easily produced and runs high from what often proves to be a trifling cause. Even a slight cold, constipation, or a slight disturbance of digestion, may produce in babies a temperature of 102° or even 103° F. We do not regard the temperature as high enough to call it fever if it does not exceed 100° F. A

temperature not exceeding 103° would constitute a moderate fever, while that of 104° or 104.6° would be high; if 105° or over it is very high. The latter temperature may be borne for a short time with safety, but it becomes alarming if much prolonged. Should the temperature reach 107° there is cause for grave anxiety, for such a fever is rarely recovered from. You should bear in mind, therefore, that the danger from fever depends not only upon its height, but also upon its duration. It also depends upon other symptoms which may be associated with it, such as coma, vomiting, convulsions, etc. When fever is present there is a notable tendency to variation at different times of the day, especially night and morning. The elevation is nearly always greater at night. There is nothing peculiar, therefore, if the child's temperature which is moderate in the morning is much higher by evening. On the other hand, if the morning temperature is as high as that of the evening before, it does not indicate that the disease or the fever is at a standstill, but rather the reverse, for by night again it will range still higher. A sudden fall of temperature is generally a favorable sign, but this is not always so, for unless it is accompanied by an improvement in the other symptoms, it may indicate that death is imminent.

Is not the temperature sometimes below the normal?

Yes. Instead of elevation we sometimes encounter a temperature half a degree or even a whole degree below the normal (98½°). This is frequently seen in children who are recovering from an attack of some disease in which the temperature has for some time been elevated. If the temperature, taken in the rectum, falls to 97° or lower, it is decidedly dangerous. All conditions of exhaustion, as from profuse diarrhœa,

obstinate vomiting, or hemorrhage, are liable to be attended with depression of temperature, hence their danger in very young children.

Will you please summarize what you have said about the signs of illness in infants?

In brief, the principal sources of diagnosis in the diseases of early infancy are: The expression of the countenance, the gestures, the phenomena of sleep, the mode in which respiration is effected, the CRY, the condition of the tongue and mouth, the condition of the skin, the state of the breath, and, finally, the evacuations of bladder and bowels.

CHAPTER II.

THE TREATMENT OF SICK CHILDREN.

I wish to ask you what remedies a mother should have by her for domestic use in cases of emergency, such as accidents and trifling illnesses?

She should have a case or chest of medicine prepared at some homeopathic pharmacy, and containing at least two dozen of those remedies commonly needed in infancy. A larger case than this is unnecessary, cumbersome, and confusing.

Will you please give me a list of medicines for this chest?

THE INFANT'S MEDICINE CHEST.

1 Aconite nap.
2 Arsenicum alb.
3 Arnica.
4 Belladonna.
5 Bryonia.
6 Baptesia.
7 Chamomilla.
8 Calcarea carb.

9 China.	17 Nux vomica.
10 Camphor.	18 Phosphorus.
11 Colocynthis.	19 Rhus tox.
12 Gelsemium.	20 Spongia.
13 Hepar sulph.	21 Sulphur.
14 Ipecac.	22 Veratrum alb.
15 Kali bich.	23 Tartar emetic.
16 Mercurius sol.	24 Potass. permang.

In addition to the box or chest of medicine as just described, each nursery should be supplied with a box of some antiseptic gauze — say carbolized gauze; a package of absorbent cotton; a pound of ground flax seed; and it would be well to have also, if far away from a druggist, a two-ounce vial of Squibbs' chloroform. A bottle of arnica tincture for bruises, and another bottle of calendula tincture for cuts and open bruises would be well. Vaseline is such a universal household remedy that it almost escaped mention. Calendula cerate and a bottle of Witch Hazel (Hamamelis) may complete the outfit.

What strength and form should these remedies be in?

The last one mentioned (permang. potass.) should be in crystals, as it is used (dissolved) for spraying or swabbing the throat when sore. All of the other remedies mentioned, I use generally in the third attenuation or dilution, which is technically indicated by the mark 3x. The best form in which to get the remedies is in "*tablet triturates*," as they do not lose their strength by evaporation — as do pills and disks which are only saturated with the tincture. These soon lose their strength and become dry and useless, especially if carelessly corked. The tablet triturates do not deteriorate.

How are these tablet triturates to be used?

Three or four tablets should be dissolved in a third of a glass of water, and a teaspoonful administered at a dose, being guided in frequency by the severity of the symptoms and the character of the disease. In ordinary cases a dose of medicine hourly is quite often enough, but in diphtheria and also in cases of high fever or colic it is well to administer the medicine as often as every fifteen minutes until a perceptible effect is produced.

Should a child be awakened from sleep to take medicine?

Never, under ordinary circumstances. If the child is sick enough to have its sleep disturbed for medicine you should call in the services of a physician and be guided by what he tells you in regard to the matter.

How long is it safe to trust to a given remedy without changing to some other?

If the disease is an acute one, and of trifling import, your remedies, if properly selected, ought to show improvement in from two to twenty-four hours. Often the effect is apparent within an hour. In cases of fever, for example, or diarrhœa, or colic, the remedy, if properly chosen, should be followed by amelioration of symptoms within from two to twenty-four hours. If there be no change for the better within this time, you should go carefully over the symptoms and see if you have selected the appropriate remedy, and if so, and there is no improvement, you should call in a physician at once, for the case is probably, or at least it may be, too serious for you to handle alone.

But suppose I can not command the services of a homeopathic physician, what am I to do?

Never mind the school to which he may belong;

what you need is help. Call in the most skillful physician in your neighborhood, regardless of medical schools, and follow his directions implicitly. Tell him what medicines you have given, and trust the future conduct of the case to him if he seems worthy of your confidence.

Is it always safe to give the medicines you have indicated?

Yes, if given according to directions. But do not, under any circumstances, give medicines of any kind unless you have good reason to do so, and you have a reasonably good idea of the cause and nature of the baby's sickness. Never give medicine at random or haphazard. Medicine is not food, and it is always, even in minute homeopathic doses, either helpful or harmful. The practice of giving medicated pellets or tablets every now and again, without due regard to the reason why, is very reprehensible. The greatest care and restriction should be exercised in regard to the administration of drugs. Many a child's life has been sacrificed by the careless and indiscriminating use of the family medicine chest. The giving of medicine under all circumstances should be limited to the doctor and the parent. In some cases a trusted nurse may be given the power of proxy, but only in exceptional cases. The actions of all medicines should be closely watched and patiently studied; only in this way can one become expert in their administration. If this watchfulness is entrusted to a nurse, however trustworthy in other respects, the experience to the mother is mostly lost.

Now will you kindly give me the indications for these various medicines?

Directions.—These remedies are all "tablet triturates, *i. e.*, they are prepared by incorporating the drug with sugar of milk by a process of thorough trituration.

By this process the remedy, whether it be vegetable, mineral, or from whatever source it is derived, is rendered *soluble in water, is of uniform strength, and will keep indefinitely in any climate.*

Dose.—For infants under one year of age, three tablets in a third of a glass of water. After being dissolved give a teaspoonful every hour — half-hour or oftener in very acute cases. Very young infants may be given a half or a third of a teaspoonful, in which case the remedy may be given quite often, if necessary, until an appreciable effect is produced.

INDICATIONS FOR REMEDIES.

Aconite.—This remedy is chiefly used in fevers, although it has a wider range of usefulness. It is indicated in nearly all forms of fever in childhood, but more especially in those fevers which arise suddenly and which are attended with flushed face, burning heat of skin, great thirst, restlessness, and, if the child is old enough to express its symptoms, a fullness (congestion) either in head or elsewhere; quick pulse, rapid heart action, and throbbing of temples.

Arsenicum Alb.—Useful especially in acute cases, where there is great thirst; hot, burning pains in stomach and bowels, and cold, clammy sweats; in diarrhœa attended with watery stools which are excoriating.

In chronic cases it is useful in chronic diarrhœa of infants, in cholera morbus, and in all cases of illness attended with pallor or bluish color of skin, and cold, clammy sweats; bloated condition of skin, scaly eruptions of skin, sluggish ulcers. It is a good remedy in ulcers of the mouth.

Arnica.—This remedy is especially useful in bruises, sprains, and wounds that affect the entire system. We refer now to its internal administration. It should be

given in cases of falls affecting the head; in ailments resulting from shock, burns, etc. Its use externally in bruises and bumps where the skin is unbroken is well known. When outwardly used, the tincture, clear or diluted, is the proper thing, but when given internally it should be used like the other remedies.

Belladonna.—Useful in diseases of the brain, and in sore throats which are simply red and inflamed, but not ulcerated.

It is indicated especially in redness of the face, congestion of the eyes, headache, dilated pupils, convulsions, spasmodic cough which is usually *worse at night*, sleeplessness.

Bryonia.—Indicated especially in rheumatism, pleurisy, and in most painful affections which are *worse from motion.*

It is also useful in derangements of the stomach attended with furred tongue, sallowness of the skin, and constipation. It is an excellent remedy to give in the beginning of all of the eruptive fevers, such as measles, scarlet fever, etc., where the *eruption is slow in appearing.*

In giving aconite and bryonia, care must be taken to avoid draughts, as both remedies induce perspiration.

Baptesia.—A most useful remedy in malarial fevers of all kinds. It will sometimes abort typhoid fever, and is a remedy of prime importance in remittent and intermittent fevers.

Its principal indications are fever, attended with more or less delirium ; patient can not go to sleep because she can not get herself together; head feels as if it were scattered about; turns about in bed trying to get the pieces together ; while answering questions falls asleep ; talks incoherently about things foreign to her usual thoughts.

Baptesia is a very useful remedy in all forms of low fever attended with coated tongue, fetid breath, and some form of delirium such as just described.

Chamomilla.—This is the "baby's own medicine." It is useful in most of the nervous affections of infancy, and is especially useful during the teething period.

The indications for its use are, great restlessness and desire to be carried, colic, excessive flatulence, one cheek red while the other is pale, *greenish color of stools*, cough which is worse at night. It is often serviceable by wetting the finger in the tincture of chamomilla and rubbing the gums when the latter are swollen and tender.

Calcarea Phos.—Very useful in children of a rickety turn, and also in those of a scrofulous constitution. A good remedy when the teeth are delayed, and for children who sweat about the head and are always taking cold. It is indicated when children are slow in development; they do not stand or walk early; tendency to grow fat, but not strong; in children with large heads, narrow chests, and big stomachs ("frog belly").

China.—Useful in complaints in which the system has been exhausted by loss of vital fluids, such as chronic diarrhœa; also when there is little or no appetite. Patient feels worse every other day; long, lasting, congestive headache, with noises in the ears; jaundice from malaria; tenderness over the liver; urine dark and scanty; intermittent fever, *followed by profuse sweating*.

Camphor.—Useful in colds, colic, and especially in cholera and cholera infantum, and in acute catarrh. Symptoms, sudden and complete prostration of the vital forces, with great coldness of the surface of the body; long, lasting chill; cramps, with extremities cold and blue; *retention of urine*, cramps of legs, with vomiting and diarrhœa.

Colocynthis.—This is the prime colic remedy, and in simple colic will usually afford prompt relief. When the colic is produced by or complicated by constipation, it may be alleviated with nux vomica. The guiding symptoms are cramping pains in the bowels; legs drawn up; child screams with pain, and will not be pacified; nursing only relieves for a few minutes; the more intense the pain the more colocynth is indicated.

Gelsemium.— This is a remedy especially adapted to nerve pain, and is of great value in *heart-pang*. It is applicable to cases of fright or fear, when the nervous system is unstrung. In impending convulsions it vies with belladonna in its power to ward them off. It is more especially adapted to nervous and excitable children, who are prone to imaginary terrors, and who can not sleep because they are full of all sorts of fancies. It is useful in cases of irregular action of the heart from fright or grief.

Hepar Sulphur.— This is the great *croup remedy*. A few doses will often avert croup, especially if it be of the spasmodic variety. It is indicated in all cases of hoarseness; coughs which have a tight, shrill, metallic ring; chronic hoarseness, inflammations of the eyelids, lids glued together in the morning, catarrhal affections.

It is also useful in affections of the glands, skin, and mucous membranes.

It is *the* remedy in *milk-crust*, pimples, and boils which keep coming in successive crops.

In croup it may be advantageously alternated with *aconite* if there be much fever, and with *spongia* in the absence of fever.

Ipecac.— Nausea and vomiting are the prime indications for ipecac. It is useful in all forms of indigestion, diarrhœa, and in the beginning of all eruptive diseases which are attended with either sickness of the stomach

or vomiting. In whooping cough, when the child "throws up" every time it coughs, this remedy is of inestimable value. In this disease it should be alternated with belladonna or hyoscyamos, as indicated elsewhere.

The guiding symptoms are prolonged nausea, retching, and vomiting; diarrhœa with stools like yeast.

KALI BICHROMICUM.— This remedy is of paramount importance in all forms of *sore throat*, but is more particularly applicable to sore throat attended with ulceration, offensive breath, and difficulty in swallowing. It is useful in catarrh, bronchitis, sore throat, and *diphtheria*. I recently sent out a circular of inquiry to a large number of homeopathic physicians, in order to ascertain certain facts as to their treatment of diphtheria. In this circular I asked, "What three remedies have you found most beneficial in diphtheria?" Ninety-five per cent of my replies mentioned kali bichromicum as one of the leading remedies. In the list of remedies mercurius was its "running mate," if I may be allowed to use a sporting term. The guiding symptoms are, mouth filled with tough, stringy mucus; expectoration difficult, mucus streaked with blood, cough choking and croupy, worse in the morning; chronic hoarseness, membranous croup, fetid discharge from the nose in chronic catarrh, ulcers on tonsils, ulcerative tonsilitis.

MERCURIUS.— This remedy is one of very wide application. It probably has a wider range of action than any other in the entire materia medica. And yet it is one which should be used carefully and with discrimination. It is useful in all *glandular* affections and in all ailments involving the *mucous membrane*. In sore throat, with ulceration, foul breath, and swollen glands, it is the prince of remedies. In diphtheria it is the first and foremost medicine. Its chief indications are cold,

clammy sweat; cough with hoarseness, which is worse at night; tongue has a whitish coating, profuse flow of saliva, sore throat, fetid breath, teeth sore and loose in the gums, ulcerations in mouth or throat, gums bleed. It is a most useful remedy in the sore mouth of infants and children, and is particularly indicated if the gums are soft and swollen and have red edges next the teeth.

Mercurius is indicated in nearly all affections of infants in which the symptoms are *worse at night.*

Nux Vomica.—A valuable remedy in indigestion due to some indiscretion in eating, and more especially if there is *much wind* on the stomach. It is useful in constipation as well as in diarrhœa caused by improper kinds of food.

It is of great service in colic, given in alternation with colocynth or chamomilla where there is belching or hiccough, and is all the more indicated if the abdomen is tense, swollen, and hard. Nux vomica is one of those remedies which are difficult to understand, since it is equally useful in two opposite physical conditions, viz., constipation and diarrhœa. This difficulty will clear away if you understand that most, if not all, remedies have a *primary* as well as a *secondary* action. These effects are generally directly opposite to each other. Castor oil moves the bowels as a primary effect, but it constipates as its secondary effect. This subject is too complicated to be more than hinted at here, but it is a well-established fact in therapeutics that the same remedy may have a dual action and reach conditions equally well, but which are diametrically opposed to each other.

Nux vomica is indicated in indigestion, whether there be constipation or diarrhœa, *provided* there is present with either condition colic, wind, and loss of appetite.

PHOSPHORUS.—This remedy is principally useful in the hard, dry, tickling cough which accompanies the first stage of bronchitis. Its chief indications are: dry, short, hacking cough, with scanty expectoration or none at all. The cough is the very antipodes of that loose, rattling cough which is characteristic of tartar emetic. We often have coughs in which these two features are combined. Sometimes the cough is loose, and mucus rattles in the bronchial tubes; and later the cough is light and dry, without expectoration. In such cases it is well to alternate these two remedies, giving each every half-hour.

RHUS TOXICODENDUM.—This remedy is useful in nettle rash, rheumatism which is relieved by moving about, and in skin diseases characterized by burning and itching of the skin and the formation of small watery vesicles.

It is valuable in that form of rheumatism which is worse from *rest*, which is directly opposite to the cases where bryonia is helpful.

Rhus is good in affections which arise from getting wet or from exposure to cold and dampness.

SPONGIA.—This remedy is regarded as almost a sovereign remedy in spasmodic croup, and is much used in whooping cough. Its indications are a dry, hoarse, hollow cough, voice reduced to a whisper, great dryness of throat and windpipe.

It is usually alternated with *hepar sulph.* or *aconite.*

SULPHUR.—This remedy is by many physicians regarded as the king of all. It is, indeed, a drug of marvelous power. It is especially useful in chronic maladies which have resisted other drugs and have passed into the chronic stage. It is of little value in acute troubles. It is applicable to all chronic skin diseases, eruptions, boils, pimples, carbuncles, etc. It is used a

great deal in diphtheria, the white flour of sulphur being blown into the diseased throat by means of a powder blower.

It is useful in chronic diarrhœa and in persistent rheumatism.

Veratrum Album.— This is a remedy of great value in diarrhœa attended by pain. It is never indicated in *painless* diarrhœa.

It is useful in spasmodic asthma, colic, cholera infantum, and in low states of the system when pain and threatened collapse are both present.

Tartar Emetic (Antimonim Tartaricum).— This remedy is especially useful in bronchitis attended with a filling up of the finer bronchial tubes (capillary bronchitis). The symptoms are: very rapid breathing, lips blue, inability to nurse, pulse quick; cough, after being present, has disappeared; indeed, what was bronchitis is now catarrhal pneumonia. In these cases tartar emetic, alternated with phosphorus or aconite, will often work wonders. The more the finer tubes of the lungs are filled up, the more this remedy is indicated.

It is a remedy, however, which has a limited range of applicability, but when indicated it is of great power.

Permanganate of Potash.— This remedy is not to be used for internal administration, although it is better known as an antidote to a poison (opium) than as a poison itself. It is, however, a drug of incalculable value as an antiseptic and deodorant. Only two or three crystals are necessary to use at a time, dissolved in a glassful of water. This infinitesimal amount of the crude drug so thoroughly diluted has been my favorite *local* remedy for sore throats for over thirty years. With young infants it must be used in a spray or with a swab ; the former method is much preferable. Older children may use it as a gargle. It makes a

beautiful color when used in this strength, but its taste is somewhat brackish. I never recommend it to little folks for its taste, but they can usually be induced to use it on account of its beautiful color.

Whether sprayed in the throat or used as a gargle, it takes away all fetor of breath, allays inflammation of the mucous membrane, and is the best local application in sore throats that I have ever found.

It stains linen badly and hopelessly, so that care must be used in its administration.

CHAPTER III.

POST-PARTUM EMERGENCIES.

Is it true that a child born at the eighth month is less likely to live than one born at the seventh?

No; this is an old woman's notion, and entirely destitute of truth. The nearer the child approaches to the full term the greater chances it has of living.

Is there any chance at all of a child living born at six months?

Children born before the seventh month rarely survive, although there have been cases of survival as early as six and a half months.

What special treatment do such cases require?

Their principal requirement is warmth. The maternity hospitals have a special apparatus called an incubator or brooder, which is especially devised for maintaining a proper temperature, but in a private family the same end can be accomplished by swathing the infant in warm cotton and placing it near the fire. It

should be surrounded with hot-water bottles and bags, changed often enough to maintain a temperature of 98° to 100°.

Premature children and weaklings do not bear much bathing, as they are very easily chilled. They should be oiled, and if bathed at all the water should be very warm—110°. Some whisky or alcohol should be put into the water. If the debility is extreme it will doubtless be too feeble to nurse, in which case the milk must be drawn from the mother's breast into a warm glass by gently stroking the breast and pressing outward on the nipple. A few drops of the milk should be given the baby every little while. Should there be no secretion of milk, hot whisky and water may be given with a little sugar added. The proper proportion would be, one teaspoonful of whisky or brandy to five teaspoonfuls of hot water. One teaspoonful of the mixture, slightly sweetened, may be given every hour, or even oftener in extreme cases. This procedure has saved the lives of many premature infants.

Should such a child be fed with a spoon?

Either that or, better still, with a glass medicine dropper.

But a baby can not live for long on a diet of whisky and water?

Quite true; but this stimulant, judiciously used, will keep up the bodily warmth, and with the mother's milk will soon create strength enough to enable the baby to nurse. After the first few hours a little diluted cream from cow's milk can be used in alternation with the whisky. If the mother's milk does not come promptly, a young wet nurse should be obtained, if possible, and her milk given by spoon or dropper if necessary.

Do you think it possible for these puny weaklings ever to become strong and well?

Mothers of delicate and puny babies need not despair. The excessively weak condition of Voltaire prevented his being baptized for several months after he was born. Perhaps he protested at that early age. Newton was so small and frail at his birth that his life was despaired of. He lived, however, like Voltaire, to the age of eighty-five. Jean Jacques Rousseau says: "I came into the world sick and infirm." Up to the age of five the life of De Thou, the historian (born in 1553), hung by a slender thread. Fontenelle, whose mental faculties remained unimpaired to the end of his long life — he died within a month of being a centenarian — was so delicate in his infancy that he was not allowed to be taken out into the open air. Walter Scott was an invalid before the age of two. His right leg being paralyzed, the poor little fellow had to support himself on a crutch. After being sent into the hill country with his father he came back strong and active. And Victor Hugo has told us in his "Autumn Leaves" how delicate he was from his birth, and what anxious solicitude made him "twice the child of his persistent mother."

What causes a new-born child to bleed from the navel?

It is because the cord was either carelessly tied, or, from being unusually large, the ligature does not properly close the blood vessels.

What should be done in such a case?

The infant's clothing and binder should be removed, and the cord exposed and retied near the body. A half-dozen strands of stout linen thread should be twisted into a string for the purpose. It should be drawn tightly, but not enough so to cut through the cord.

When should the cord come off?

Between the fifth and fifteenth day after delivery, and it should never be disturbed to hasten its falling, for fear of hemorrhage.

Does the navel require any after-dressing?

Occasionally, after the cord falls off, a small excrescence, about as large as a pea, appears on the navel, which gives rise to a thin liquid. This should be dusted with a little powdered alum, and then dressed with zinc ointment or vaseline.

What causes jaundice in a new-born infant?

Real jaundice is very rare in early infancy, but there is frequently a discoloration of the skin, especially after a tedious labor, which closely resembles it. It is not, however, a serious trouble, and will disappear of itself in the course of a week or ten days. In true jaundice the whites of the eyes are stained yellow, and the urine is very highly colored.

What is to be done in case of retention of urine or feces?

In case the bladder and bowels are not evacuated within twelve hours after birth, the physician should be notified, but, pending his arrival, it will be quite proper to place the child in a warm bath — 110°. Oftentimes it will suffice to lay a piece of flannel, wrung out of hot water, over the lower portion of the abdomen. Unless there be some physical malformation, no alarm need be felt if the urine is not voided for twenty-four hours.

What is to be done when phlegm gathers in the throat of a young babe, so that in its efforts to raise it, his face turns blue, and his eyes bulge?

Twist an end of your handkerchief around your index finger, and quickly, but gently, wipe out the throat with it.

What is to be done when the babe's breasts swell and contain milk?

Let them alone. If the swelling is only moderate it will do no harm, and will soon pass away. Any attempt to remove the secretion by pressure will lead to inflammation. If the surface is red, and the breasts are swollen or painful, hard and tender to the touch, apply cloths wrung out of hot water and witch hazel, half and half.

How can I tell if my infant is tongue-tied?

Where an infant is tongue-tied, the bridle beneath the tongue is either too short, or it is attached so near the tip of the tongue as to interfere with the movement of that organ in sucking. If the child is able to protrude the tip of the tongue beyond the lips, or if it is able to draw on the nipple sufficiently to draw the milk, you need have no fear of tongue-tie.

But if it can not suckle from this cause, what am I to do?

The bridle will have to be nicked with a pair of blunt-pointed scissors. There is considerable danger, however, of cutting a small artery at the base of the bridle, so that only an expert should attempt this operation.

Are all babies born bow-legged?

To a certain extent they are, and they have the peculiar monkey-like power of turning their feet inward, but this must be distinguished from such real deformities as club feet, etc.

CHAPTER IV.

OPHTHALMIA (SORE EYES).

What causes a new-born babe to have sore eyes?

Some error in the management of the baby soon after birth is the foundation of all cases of sore eyes in new-born infants unless it be of specific origin. If the babe is bathed in soap and water soon after birth, which it should not be, the soap is apt to get into the eyes, causing irritation and inflammation. The secretions from the mother are sometimes acrid and irritating, and unless carefully and completely washed away may give rise to inflammation. Too much light in the nursery from windows or from artificial light is another fruitful source of ophthalmia. Carelessness in the use of towels or rags which have been used about the mother, and which have become stained with the discharges; dust from an ill-kept room and cold from exposure to draughts of air, are also prolific causes.

What is the technical term for this affection?

Ophthalmia neonatorum, or inflammation of the eyes of a new-born infant. It is sometimes called, also, purulent ophthalmia.

When is it most likely to appear?

From two to five days after birth.

Is it dangerous?

It is estimated that over 70 per cent of all persons who become blind during the first year of life become so from this disease.

Can it always be prevented?

Just as surely as any non-contagious disease can be prevented. Nothing else but ignorance or carelessness permits the calamity.

What are the first symptoms?

Any thick secretion about the eyes which glues the lids together is suspicious. The eyelids should be gently separated at each bath and carefully examined to see if there is any evidence of inflammation. At first there may be only a slight redness of the margin of the lids, but even this should not pass unnoticed, nor be neglected for a moment. Usually the inflammation begins during sleep, and, on waking, the infant either shows intolerance of light or the eyelids are stuck together. On separating the lids a drop of pus will be found at the angle of the eye and possibly on the inner surface of the lower lids. Soon after this the lids swell and often become greatly puffed up, and the eye itself becomes red. Within a very few hours there is an abundant secretion of thick discharge, which pours out whenever the lids are separated. It is often impossible to separate the lids without using warm or hot water, and even then the operation is attended with pain.

Is this secretion from the baby's eyes infectious?

It is very infectious, so much so that the nurse or attendant must exercise the greatest care or her own eyes will be affected. The cloths used in treating and cleaning the eyes should be burned, and the hands of the attendant should be thoroughly washed and disinfected after each handling.

Is there more than one kind of ophthalmia neonatorum?

Yes, but the symptoms are so nearly alike during the first few hours that it would be dangerous to consider any case otherwise than serious.

What are the first remedies to be used?

The eyes must be kept scrupulously clean, and the pus must be washed away as fast as it is secreted. To do this properly the baby should be held on the lap, with the head inclined backward and toward the diseased side. The lids must then be gently separated and cleansed with some antiseptic lotion. Absorbent cotton should be used as a sponge. After the pus has been washed away, some eye-wash should be used, either with a fresh camel's-hair pencil or, still better, an "eye-dropper." This consists of an ordinary medicine dropper, with a small rubber bulb, but with the glass point smooth and rounded, or bulbous (like an ear syringe), to prevent accident. The lotion should enter the eye at the corner or angle next the nose. The object of inclining the head toward the diseased side is to prevent the medicated lotion from invading the well eye. The sticking of the lids together may be prevented by carefully anointing the edges of the lids with a little vaseline.

What are the best remedies for this affection?

In the beginning there is no better eye-wash than powdered borax or boracic acid — half a teaspoonful to a teacupful of warm water. In mild cases taken in their incipiency, this lotion applied frequently — every time the baby nurses — will often be all-sufficient. If no improvement is noticed after twenty-four hours, a physician should be summoned, for the case will need more active treatment, which only a skillful doctor should undertake.

Is it common for both eyes to be affected or is only one usually involved?

As a rule both eyes are simultaneously involved or both are affected in rapid succession. At times, however, one eye remains free from infection.

What is the usual duration of the disease?

From a few days to several weeks. If neglected or improperly treated, it may last for months.

Are there any internal remedies which should be administered?

Aconite, sulphur, mercurius sol., or argentum nitricum. It will be useless, however, to depend on internal remedies unless scrupulous cleanliness is also observed. In this affection local measures are paramount to those internally administered. This applies, of course, only to such cases as are non-specific.

INFLAMMATION OF THE EARS.

What are the symptoms of earache, and how can it be told from pain elsewhere?

It is sometimes very puzzling to diagnose pain in the ear. The chief symptom is loud and persistent crying, which nothing can pacify. It often develops suddenly in the night, after a perfectly well day, or possibly after a slight cold in nose or throat. If an infant is old enough to locate its suffering it will raise its hand to the affected ear. There is usually some fever, but not always. The pain may be of brief duration, or may last for several days. It is usually paroxysmal. Of course the pain is only a symptom and may mean only a passing inflammation, but very often the inflammation results in the formation of pus, which perforates the drum membrane, and is discharged with the immediate relief of the pain. The discharge often has a very foul odor.

Does this inflammation ever cause deafness?

It frequently causes deafness, and should never be treated for any considerable length of time without consulting a physician.

Is there any other danger in such cases, except that of deafness?

If pus is formed and does not find a ready outlet, there is danger of its affecting the surrounding bones, and ultimately the brain.

Is it proper to syringe the ear under these circumstances?

In cases of discharge from the ear the mother may use a syringe with warm water as often as may be necessary to keep the ear clean, but under no circumstances should she use a probe or employ force to clear away the discharge.

Should cotton plugs be used in inflammation of the ear?

Only if the child is going into the open air. The discharge of pus should have free exit, and under no circumstances should it be locked up in the auditory canal.

What remedies would you suggest?

Apply a hot-water bag or dry, hot flannel. Syringing the ear with water as hot as can be borne will often afford relief. It is unsafe to drop any medicine into the ear without the advice of a physician.

What homeopathic remedy should be employed?

Aconite, belladonna, mercurius sol., pulsatilla. Aconite is especially indicated in the beginning, and when the trouble presumably arises from cold. Mercurius should be given when suppuration is impending or has already begun. Pulsatilla is a most excellent remedy if the pain is neuralgic in character, intermittent, and without fever.

COLIC.

Why do so many infants suffer from colic?

Chiefly because they are illy fed, for colic is invariably caused by indigestion.

But why should a nursing baby have indigestion?

Either from some indiscretion on the part of the mother which disturbs her stomach, but more often from too frequent nursing. A baby that is nursed irregularly, and given the breast to pacify it every time it cries, will be pretty sure to have colic. Bottle-fed babies are especially prone to these disorders.

Is colic ever dangerous?

Yes, the crying is sometimes so violent as to produce rupture, and is also sometimes so prolonged as to cause collapse from exhaustion.

At what age is colic most frequent?

From birth to the close of the third month. It may, however, occur at any period of infancy and childhood.

What are the symptoms of colic?

Sudden and violent outbursts of crying — crying which continues until the child is blue in the face, and the extremities are cold from exhaustion. The abdomen is swollen, tense, and hard. The child doubles up its legs and clenches its fists, and then straightens them out with violent jerks. These symptoms last a variable time and then cease, often after a passage of wind from mouth or bowels.

How can such attacks be prevented?

By regulating the frequency and quantity of the food, or possibly by changing the food if the child is being bottle-fed. In some cases the colic is caused by chilling of the skin, in which case attention should be

given to the clothing. If the flannel belly-band has been discarded, it should be replaced. The feet and legs should be kept especially warm.

Should a baby with colic be nursed, if nursing affords relief?

It is generally the worst thing you could do. The colic in most cases is primarily due to the fermentation of food already taken. Fresh, warm food affords temporary relief, but in the end only protracts and aggravates the disturbance. It is like adding fresh fuel to a fire already started. Better by far give the colicky baby some hot water, and suspend feeding until the paroxysm is over, and then make the intervals of feeding more regular, and diminish the quantity imbibed.

If a baby has not had colic during the first three or four months, is it likely to have it afterward?

Colic is always a sign of indigestion. Some babies have weak digestion from the first, and hence are troubled with colic. While an infant is more likely to have colic during the early months of its life, indigestion occurring later might easily produce it at any age.

What is the proper treatment for colic?

First remove the cause, in so far as it can be ascertained. Rubbing the abdomen with the hand will often assist the expulsion of the confined gas; so will change of position. Place the baby on its stomach across your knees, or lift it over your shoulder so as to make gentle pressure on the distended abdomen. Sometimes the injection into the rectum of a few ounces of hot water will afford relief. Rubbing the feet, if they are cold, is another useful expedient. If the pain is so severe as to threaten collapse, put ten

drops of gin or brandy into a little hot water, sweetened, and give at frequent intervals until the paroxysm is over. Peppermint water or cinnamon water is also permissible.

A very effectual domestic remedy is soda mint mixed with an equal quantity of hot water. It may be given every half-hour or oftener in urgent cases. The following is the recipe for making:

Soda Mint.— Bicarbonate of soda (baking soda), one-half drachm; aromatic spirits of ammonia, one-half drachm; spearmint or peppermint water, enough to make two fluid ounces.

Constantly recurring colic, not relieved or prevented by the means already described, should be given one of the following remedies; indeed, they may supersede those measures or be combined with them. The leading remedies are colocynthis,* chamomilla, and nux vomica, and their relative value is generally in the order named. In some cases resort should be had to the hot full baths, and it would always be well, in persistent or obstinate cases, to summon a physician. Before the days of safety pins it was not uncommon for the busy doctor to find that a pin in diaper or gown was prodding the infant's anatomy, and the cry elicited in consequence so simulated that of colic as to "deceive the very elect"— all save the doctor.

There are numerous patent remedies — soothing syrups, cordials, etc.— which are extensively advertised, and which are said to relieve pain of all kinds in an infant. Do you approve of them?

There is not one of these patent medicines but owes

* My friend, Dr. N. F. Cooke, now deceased, used to laughingly say that this was a most happy affiliation of name and remedy, but that it ought to be pronounced "colick-cynth."

its efficacy in allaying pain to opium, chloral, hasheesh, or some other powerful narcotic, which would be dangerous if taken by an adult, and which is poison to the delicate nervous system of an infant. A very large percentage of the mortality in infancy is directly attributable to the use of these drugs. It matters not that the advertisements of these nostrums state that they contain no opium nor anything detrimental to the health of the child. The vendors of such drugs are unscrupulous. Their statements are notoriously false. They are all harmful, without a single exception, and all dangerous in direct ratio to the youthfulness of the patient. I have known of several deaths of very young babes from a few drops of paregoric, and all preparations of opium are well known to be exceedingly perilous when given to very young children. These patent preparations should never be given, and opium in all forms should be left to the physician to prescribe as he may see fit in his judgment and experience.

SORE MOUTH (STOMATITIS).

What causes sore mouth in infants?

The causes of inflammation of the mouth — or stomatitis, as it is technically called — are various. Any derangement of the stomach is liable to cause it. Uncleanliness — that is, failure to wash the mouth after each feeding — is probably the most common cause. Whether the child nurses the breast or is bottle-fed, its mouth should be washed out with a soft rag and some alkaline fluid as soon as it has finished its meal.

What wash is best?

Listerine is very good; so is bicarbonate of soda in the proportion of ten grains to the ounce of water. In the absence of these, simply washing the mouth and

gums with boiled or distilled water will answer very well.

Is there more than one variety of sore mouth?

Yes, but for all practical purposes they will all be classed as one and the same. The foundation of all is simple inflammation, which is attended by increased heat and tenderness of the mouth, so that nursing is painful and the nipple is dropped with an outcry. In some cases the mouth is dry and hot, while in other cases it is moist from an increased flow of saliva. In most cases the mucous membrane lining the mouth is reddened, but not uniformly, the inflammation being localized in spots or patches of variable size. The edges of these spots are slightly raised above the surface. In the *apthous* variety of stomatitis, little shallow ulcers form over the tongue, palate, and inside lining of the lips and cheeks. These ulcers at first often look like pearl drops under the mucous membrane, but very soon they break down and become cup-shaped. They render the mouth very painful, so that the baby cries whenever any attempt is made to nurse or eat.

How long does this condition last?

From a few days to several weeks.

What is thrush?

This is an inflammation of the mouth in which there are patches of curd-like exudations scattered here and there on the gums, lips, and sometimes on the palate and tongue.

What causes this?

It is parasitic in its origin, and is always due to uncleanliness. Either the nursing bottle is not kept clean, or the mouth is not washed out as it should be after each feeding. It is commonly associated with

some disturbance of digestion, and is frequently attended with vomiting and diarrhœa. It is distinctly contagious.

What are the symptoms?

Feverishness, fretfulness, indisposition to nurse, increased flow of saliva, colic, and oftentimes diarrhœa. The mouth shows patches of curd-like matter, and everything taken into the mouth provokes a cry.

Are there any other forms of inflammation of the mouth?

From simple redness of the mucous lining of the mouth there are all grades of inflammation, even to the *ulcers*, in which the mucous membrane is streaked with ulcerous lines. And there is yet another form, worse still, which is called *gangrene*. The latter form is very rare, but occurs often enough to make all forms of inflammation affecting the mouth worthy of serious attention. If the mildest form of stomatitis does not yield to simple remedies it should be referred to a competent physician as soon as possible.

What are the first and usual remedies to be employed?

Greater cleanliness in regard to all matters of food; the nursing bottle, especially, and the rubber nipple should receive more attention. The mouth itself should be washed every two or three hours with a solution of boric acid, using the finger, covered with a soft piece of linen.

The following is a good recipe: Boric acid, half ounce; distilled water, one pint. Or the following may be used: Strained honey, three teaspoonfuls; borax, powdered, one teaspoonful. Or, glycerine, one ounce; distilled water, one ounce; boric acid, two drachms.

Hydrastis diluted one-half with water makes an

admirable mouth-wash. A weak solution of alum is also sometimes useful.

Is sore mouth ever attended with danger?

It usually is not serious if the infant is otherwise well, but if a weakling or just recovering from some acute disease, it may prove serious as a complication. Thrush is attended by danger from its proneness to extend from the mouth to the stomach, and it occasionally goes the whole length of the alimentary canal, even to implicating the anus.

What medicines are useful in this affection?

Mercurius sol., aconite, nux vomica, and arsenicum.

CHAPTER V.

DISORDERS OF DENTITION.

What diseases or disorders is a baby liable to while cutting its teeth?

It has already been stated that dentition is a physiological and not a pathological process. A perfectly healthy baby should get his teeth by a process of unconscious evolution. This, however, is purely theoretical. Practically every child experiences more or less pain and discomfort during teething, and in some cases the teeth come with considerable constitutional disturbance. In some instances there is more or less fever or feverishness just before the teeth are cut, and sometimes there is vomiting and diarrhœa. At times there is a certain amount of catarrhal inflammation of the gums. (See *Stomatitis.*) In many cases there is an eruption on the skin, called "*red gum.*" Restlessness,

irritability, or other nervous symptoms are very apt to be present just before a tooth is cut, and it is often astonishing how soon these symptoms disappear after the tooth is once through the gum.

If the teeth are slow in coming, are there any means of helping them along?

Dentition is often delayed by a deficiency of lime in the baby's food. In order to make bone, the child must have lime. This is one reason why lime water is so generally prescribed by physicians as an addition to the infant's milk. There is still another reason why lime water or soda is useful in these cases. Where there is too much acid in the system the lime is prevented from being formed into bone, and hence an alkali is needed to neutralize the excess. Better than either lime water or soda under these circumstances is our homeopathic medicine, *calcarea carb.*, which, in fact, is the carbonate of lime. A tablet of this given three or four times daily will promote teething and help the teeth to come in regular order. It also tends to prevent premature decay of the teeth by correcting excessive acidity of the stomach.

But if the feeding of the baby is correct I should think there would be no occasion for giving either lime water or soda to promote teething?

You are quite correct. If the food contains the proper amount of earthy salts there is no need of any addition of these elements. But experience shows that babies fed on milk alone for too long a period do not get a due supply of these earthy salts. All of the cereal foods, barley, oats, wheat, etc., contain them in considerable quantities, and this is a reason, in addition to those already given, why the cereal foods are essential to a baby's welfare.

But I can not understand the connection between teething and diarrhœa?

It is through the sympathetic system of nerves, by means of which an irritation at one point is reflected to another. Adults often have headaches, whose origin is in the stomach — a sort of stomach-ache in the head. An irritation in the baby's mouth from teething may be thus transmitted to the bowels, causing diarrhœa, or to the brain, producing convulsions. In other cases the pneumogastric nerve is involved and the child has a "teething cough" — a purely irritative cough.

Is it well, then, to check the diarrhœa which accompanies teething?

You should never check any form of diarrhœa *directly*, for the diarrhœa itself is not the disease — it is only a symptom. You would not think of plugging up the nose when an infant has catarrh. No more should you check the bowels by using paregoric or astringents. The increase in the number of evacuations, and their altered character, are due to congestion and irritation somewhere in the system, which Nature is seeking to relieve by opening wider the sluiceways. In other words, the diarrhœa is only an effect of some morbid condition, perhaps quite remote from the bowels, and it may properly be regarded as a signal by which Nature indicates her method of operating for the relief of congestion by the expulsion of morbid matter, and should suggest to those who would lend a hand what measures are most appropriate — most in the line of Nature herself.

But you would not give castor oil or other laxatives in such cases, would you?

Such treatment would be far better than to lock up

the bowels by means of opium, or such astringents as "*chalk mixture*," etc.

But these and similar remedies afford temporary relief, do they not?

Oh, yes, the urgent symptoms are usually promptly allayed by their use. The child may go to sleep, and the bowel movements may cease for a time. But watch the result. While under the influence of these drugs there is mere palliation; the channels by which Nature was seeking to drain off noxious secretions are closed up, while the disease proper is gathering fresh force and extending its irritating influence to other and perhaps more vital parts, as the brain, for example. Soon there is high fever, the stomach shows disturbance, and no food can be retained. The narcotic or the astringent has done in such cases no permanent good, but has complicated matters, and in the end done positive harm.

What, then, is the better treatment for the disorders of teething?

Favor free bowel movements by using hot water enemata. Do this in spite of simple diarrhœa. Use the water as hot as your own hand will bear without discomfort, or if you have a thermometer make the enema 106° F. Then give the baby an occasional hot, full bath. There is nothing more soothing. After the bath and a good rubbing, as directed under the head of bathing, place the baby in bed and encourage a sound sleep. If the gums are hot and swollen, they probably need lancing. If not, rub them gently with the finger for a little time. Sometimes it is well to rub the gums with a little witch hazel or hydrastis.

What internal remedies are beneficial under these circumstances?

For the fretfulness and sleeplessness which accompanies teething, give *belladonna* or *chamomilla;* or *aconite*, if there be any indications of feverishness. For the diarrhœa, give the appropriate homeopathic remedy according to the symptoms as delineated under the head of diarrhœa (see next chapter). The diarrhœas of infancy are so common and are due to so many diverse causes that a special chapter will be devoted to their consideration. Let me say just here, however, that chamomilla is emphatically the baby's own medicine, and for many of its minor ailments, such as sleeplessness, colic, and diarrhœa while teething, its virtues can not be too highly extolled. With *chamomilla* for restlessness and colic, *aconite* for ephemeral fevers, *belladonna* for cerebral excitement, and *nux vomica* for indigestion, flatulence, constipation, etc., the nursery medicine chest will be fairly well equipped although all of the other bottles are empty.

During teething if the baby is especially ill, great care must be taken with the food, especially if the infant is being bottle-fed. Make the food thinner and give less of it at each feeding. If the ordinary food is rejected give diluted cream, or cream and barley water. Raw-meat juice in very small quantities is sometimes well borne when other foods are not tolerated.

Is change of air sometimes desirable in these cases?

If the baby is being reared in the city and the weather is hot, great good often comes from a trip to the country. Even the change of a few miles is beneficial. A sick baby taken into the country receives a double advantage; it not only breathes purer, fresher air, but only in the country can fresh cow's milk be obtained. The milk consumed by city children is always twenty-four and oftener thirty-six hours old.

This statement is not made at random, but is based on the reports of the milk inspectors connected with the Bureau of Health in Chicago. You can readily see that such milk is hardly fit for the stomach of a delicate infant. There is still another advantage of country life for a sick baby. The city is full of all sorts of bustle and noise, which can not help but irritate sensitive nerves, and aggravate incipient trouble in the delicate organism of a young child. A sick baby needs quiet and freedom from excitement, and this can best be secured in the country.

In making a change from city to country for the baby's welfare, is it necessary to make a radical one — that is, to go far away from home?

Writing from my own home standpoint — Chicago — I have often seen great benefit result from a very slight change. For example, I have watched the effect upon poor babies during the hot summer of giving them a boat-ride on Lake Michigan, and more especially the salutary influences of keeping them during the heat of the day on or near the water.*

*Some years ago my friend, Mr. Victor F. Lawson, editor and proprietor of the Chicago *Daily News*, opened a sanitarium on the lake shore, near Lincoln Park, for the care of infants and children during the hot summer months. Children are brought here in the morning, are fed and cared for during the day, and return home at night. Nurses and physicians are in attendance, but very little medicine is given, the main dependence being placed on good, wholesome food and the beneficial effects of the pure lake breezes. It is astonishing how many sick babies pick up and grow steadily better under these benign influences. I have repeatedly seen the good effects, in my private practice, of sending infants affected with summer complaint or marasmus, on the water for a daily trip. The value of the fresh, bracing air of the lake is, in most cases, quickly apparent.

In seeking a radical change of residence for a sick baby, would you advise a removal to the mountains or to the seashore?

It would require a volume as large as this to adequately answer this question. The science of climatology is in a state of evolution, with little reliable data upon which to base judgment regarding the proper or the most desirable climate for an individual case. This statement is quite true as applicable to invalid adults, and is doubly true as regards infants. In a general way it may be stated that a dry and equable climate is more wholesome than a moist and changeable one. The west coast of Florida is nearly ideal. So is Pecos Valley, N. M. It is said on good authority that 75 per cent of consumptives are restored to health by a sojourn at Las Vegas. As regards mountains vs. seashore, it must be borne in mind that mountain air, while bracing, is more changeable than that at sea-level. Heart troubles do better at tide-level than in the mountains where the air is more rare. Lung troubles often improve at high altitudes, if the air is dry like that in the Alleghanies or Colorado.

CHAPTER VI.

DIARRHŒA.

There are, of course, other causes for the diarrhœa of infancy besides teething; will you mention some of them?

Besides teething and improper food, cold is a large factor in the causation of diarrhœa. Improper clothing is frequently responsible for diarrhœa, as well as other illnesses in early life. The flannel belly-band is dis-

carded too early in many instances. In shortening the clothes, the legs are left bare for several inches by the short socks or bootees which are worn instead of stockings. The fashion of dressing children in a way that leaves their legs and knees bare can not be too severely condemned. As soon as the baby clothes are "shortened," say at five or six months of age, long stockings should replace the bootees of babyhood, or rather, let me say that long stockings should be put on and the bootees should be replaced by slippers or shoes of leather. Unless this is done, the bare portion of the leg is exposed to constant chilling, and a cold surface is always a source of danger. The child's body is very easily chilled, and the bad effects of the protracted abstraction of bodily heat are well known to every experienced physician, and should be known to the laity as well. Whenever the surface of the body is exposed to cold air, the blood which should circulate in the skin is driven to the interior of the body, where it produces congestion or inflammation of the mucous surfaces, or disturbances of other internal organs. It is largely from this cause that we have catarrh, diarrhœa, vomiting, fever, and often bronchitis or pneumonia. Because your friend Mrs. So-and-So exposes her baby's legs, and it lives, and apparently thrives, is no reason why you should do it. Her baby may be more robust than yours, and may endure the cold better. Wait awhile; her baby may fall by the wayside, as so many other illy-clothed babies have done before, and she will then, if she appreciates the causes of sickness as she should, take better care of her infants in the future.

Are all cases of diarrhœa in infants to be treated like those occurring during and caused by teething?

In all cases of diarrhœa where the cause can be ascertained, that cause should be removed. Removal of the cause will often render medication unnecessary. If the food be faulty, change it. If the clothing has been insufficient, remedy this. In selecting the remedy in a given case of diarrhœa, if medicine is necessary, you may, in the selection of the drug, ignore the cause, and treat the diarrhœa according to its symptoms.

How many stools should a healthy baby have during its first month?

From two to four in the twenty-four hours. After this period, and during the first year, the daily average of stools should be at least two, and a hearty child may have double this number without any cause for apprehension, provided the character of the discharges is normal and the increase of body-weight is maintained.

As to character of stools, immediately after birth they are dark green or brown, or even black in color, due to the "meconium." Later on the discharges are of a soft, papescent character, light yellow in color, and devoid of fetor. During the remainder of infancy they are still soft, more frequent than in adult life, and yellow or of light brownish hue. Normal stools in infancy are homogeneous in character, whatever the consistency or color.

What does a divergence from this character of stool indicate?

Light gray or clay-colored stools denote an absence of bile, which may be due to an obstruction in the bile-duct or may indicate some other hepatic disease.

In chronic diarrhœa the stools are thin, dark brown, and intolerably fetid.

Meat juice, especially the meat extracts, give to the stools a dark color and great fetor.

The dark-green color of the stools is due to bile, which is turned green by the acid character of the intestinal secretions.

Frothy, sour-smelling discharges from the bowels, of a light yellow or slightly green color, indicate a disturbance of the digestive function, and arise generally from overfeeding or improper food.

Discharges of slimy mucus occur in irritations of the bowels from worms or teething, or sometimes from an increase of the mucous exhalations of the follicles of the intestines, caused by the impression of cold upon the surface.

Repeated discharges of viscid mucus, occasionally streaked with blood, or of a greenish fluid, mixed with small masses resembling the curd of milk, are frequent in most of the inflammatory affections of the bowels.

A deep green color of the stools, the discharges resembling chopped grass or spinach, is generally a symptom of reflex irritation of the stomach or intestines, as from teething, or it may be more serious, and may be a symptom of serious disease of these organs; it is a striking feature of acute gastritis (inflammation of the stomach), and the more acute grades of gastro-intestinal inflammations.

This form of diarrhœa is called *lienteria*, and indicates excessive irritability of the alimentary canal, or it may come from substances which were indigestible to a normal stomach. It occurs in inflammation of the stomach and bowels, and in cholera infantum and chronic diarrhœa.

A diminution in the number of stools, together with a return to the normal color and consistence, is always a favorable symptom.

Does diarrhœa in children always indicate disease, or is it not sometimes salutary?

Diarrhœa, as I have already said, is never a disease, but always a symptom. When irritating substances have been taken into the stomach, which are not nutritious, and can not be made useful in the economy, nature seeks to rid herself of the foreign substances, either by vomiting or a salutary diarrhœa. In either case it would be folly to interfere with the process, since no possible good can be accomplished by doing so. But it often happens that the diarrhœa, which was salutary in the beginning, continues, even after the end has been accomplished, from the irritation thus set up, and needs to be controlled before serious, or at least unnecessary, loss of strength is occasioned.

Will you now give me the indications for the prominent remedies in simple ordinary diarrhœa, so that I may give them intelligently?

I will gladly do so, but let me say that there is no other diseased condition in which such close discrimination is necessary, and no other where the medicine must be selected with such great care. Even such trifling characteristics as the time of day (or night), presence or absence of thirst, pain before or after stool, and even the mental condition of the child — all of them must be considered in prescribing for the diarrhœas of infancy. Of course if your domestic practice is not attended with satisfactory and speedy results you will call in a physician.

I shall give you the prominent characteristics of the leading homeopathic remedies, selecting those in your medicine case:

Arsenicum. — Thick, dark-green mucus. Watery or fluid, corrosive, offensive. Worse at night or after eating or drinking; painless. Accompanied with unquenchable, burning thirst, great weakness, rapid

exhaustion, as in cholera infantum; emaciation. *In connection with great thirst there is also extreme restlessness.*

Belladonna.— Stools thin, small, and frequent. *Stupor* or *lethargy*. Sleepiness, with restlessness; starting or jumping in sleep, intolerance of light. Drowsiness, with startings, and dry heat of body are characteristics of this drug.

Bryonia.— Stools frequent, showing undigested particles, smelling like rotten cheese; *alternating with constipation.* Worse in early morning and from moving about. Desire to lie quiet.

Camphor.— Especially in sudden attacks of diarrhœa, with profuse watery discharges. Icy coldness of whole body, chilliness. Face pale, livid, or purple; eyes sunken or fixed. *Very useful in cholera morbus or cholera infantum.*

Chamomilla.— Stools green mucus, mixed green and white mucus; liked chopped spinach; small stools frequent, smelling like bad eggs, with colicky pains. Especially indicated during teething and in diarrhœa attended with peevishness; *the child cries much, and will only be pacified by being carried about.*

China.— Stools painless, but watery, and are worse after eating, and worse after any acute disease, like measles. Abdomen is distended, and bowels emit large quantities of flatulence. Great weakness. Especially indicated in children debilitated by previous disease.

Colocynth.— Stools saffron yellow. First watery and mucus, then bilious. Worse after eating. Aggravated by teething. *Colic before, with,* or *after stools.* The pain is a very characteristic symptom of this remedy.

Ipecac.— Stools green mucus; as green as grass; fermented. Before and during stool, *nausea.* Stool

spurts out with considerable force. Constant nausea, with or without vomiting, is the prime characteristic of ipecac.

Mercurius.— Stools green mucus, bloody mucus, slimy; violent and frequent urging to stool; desire to sit on chamber for a long time; straining at stool. Especially useful in children who have swollen gums which bleed easily, and where tongue is swollen, soft, and flabby.

Nux Vomica.— Stools thin, brownish, or bloody; frequent and small; hiccough; colic; over-sensitiveness to external impressions, such as light, noises, etc. Especially useful in cases where *constipation* alternates with diarrhœa.

Sulphur.— Stools watery, *changeable*, frothy, sour-smelling, fetid. Worse in the early morning and after taking milk. After suppressed eruptions. Frequently attended with colic and straining. Useful after other remedies have been given, and patient is better and then worse, or after much medicine has been given with no definite results.

Veratrum Album.— Stools greenish, watery, with flakes or specks scattered about; severe colic, nausea, vomiting, weakness. Violent thirst for large quantities of water. Vomiting violent, followed by great weakness. Cramps of extremities, cold hands and feet. Extreme anguish, arresting the breathing. *It is useless to give this remedy in diarrhœas unaccompanied with pain.*

CHOLERA INFANTUM.

Will you tell me, Doctor, what cholera infantum is, and how it differs from real Asiatic cholera?

True or "Asiatic cholera" occurs only in epidemics, and affects adults and children alike, while cholera

infantum is more or less prevalent in large cities at all times — more especially in summer and in seasons of prolonged heat, with dampness accompanying the heat.

It is not common among well-to-do people whose surroundings are pleasant and healthful, but is much more prevalent among those whose environment is insalubrious, and whose diet is faulty. Weak infants and children who are badly nourished fall a special prey to this disease.

What are the symptoms peculiar to this disease?

Its onset is sometimes sudden and without premonitory symptoms. This, however, is exceptional. More often there is a premonitory diarrhœa, which is often so mild as to attract but little attention. There is always ground for anxiety when a weakly baby has a diarrhœa which is either persistent or foul-smelling, and especially so if there is accompanying the diarrhœa a marked loss of flesh and a dullness of intellect. When a child who has been bright and alert suddenly loses interest in affairs and becomes stolid or apathetic, you may be sure that something is wrong.

If the features become suddenly pinched and the skin about the neck wrinkled, there is still more reason to be alarmed.

In most cases the development of choleraic symptoms is sudden, and frequently of such severity that the case terminates fatally in a few hours. The two essential features of cholera infantum are *vomiting* and *purging*, and either of the symptoms may precede the other or both may appear simultaneously. The vomiting is persistent. At first the vomited matter consists of whatever food has been recently taken, and after this has been ejected it consists of serum, mucus, and bile. The thirst is unappeasable, and yet whatever is taken into

the stomach is instantly thrown up again. The stools are frequent, large, and watery. They are often painless, and frequently involuntary. They are apt to look like dirty water, but in advanced cases they lose all color and become altogether serous or watery. They are sometimes so thin and copious as to soak through the napkin and saturate the bed. Occasionally cases are met with in which the stools are odorless. In others the odor is almost overpowering. The consequent prostration is rapid and great. The fontanels are depressed, the face becomes pale and pinched, and the eyes are sunken. The disease is most prevalent during the "heated term," and occurs most often in young babies under eighteen months, and still more often under a year of age.

What is the treatment in such cases?

The medical treatment consists, ordinarily, in the administration of *veratrum alb.* and *arsenicum.*

If stools are accompanied with retching and violent efforts to vomit, *ipecac.*

If there is a marked tendency to convulsions from its beginning, give *capsicum.*

Camphor is indicated when there is great prostration; coldness, with threatened collapse; attack very sudden; cold sweat on the face; upper lip drawn up, exposing the teeth.

Of course, if there is a physician within reach, his services should be obtained, for in a disease of such gravity, and which is liable to be so soon fatal, the advice of an experienced physician is imperative.

What food and care should a baby have when suffering from this disease?

Hygienic measures are quite as important as medicines. Stop ordinary feeding at once. Give raw-meat

juice in very small quantities. If the baby is under a year old, give only a few drops at a time. If there is great prostration, add a drop or two of brandy to the meat juice.

A little cream and water, or barley water and cream, will sometimes answer a good purpose. With nursing babies, it is not best to insist on feeding if there is no appetite, and it is bad practice to give the breast when it is taken merely to satisfy thirst. If the breast milk excites vomiting or stimulates the bowels to move, it is useless to persist in nursing.

It is better to withhold the breast for a few hours and give raw-meat juice or brandy and water. To satisfy the craving for water, wrap up a small bit of ice in a linen rag, such as a pocket handkerchief, and let the baby mouth it. An occasional sip of ice water will do no harm.

Is it ever wise to give an enema in cholera infantum?

It is sometimes a very valuable adjunct to other treatment. I hesitate to recommend it, because so many physicians are ignorant of its merits or are prejudiced against it.

I can say, however, that I have cured a considerable number of babies, who had been given up by other physicians, by the use of *hot water enemata*. The water should be as hot as can be well borne (110° F.), and it can be repeated two or three times in the twenty-four hours, if the first one seems helpful.

CHAPTER VII.

CONSTIPATION.

What shall I do for my baby when he becomes constipated?

If properly fed an infant should never become constipated. He may have diarrhœa from various causes, but constipation is always due to some error in diet or mismanagement in the daily routine of the nursery.

What remedies would you suggest for this condition?

First, change the food if the baby is being bottle-fed. Give less milk and more of some one of the cereal foods. If Mellin's Food is used, give it almost free of milk until the bowels are loose; then add more milk.

Is Castoria good for constipation?

Neither Castoria nor castor oil should ever be given for the relief of constipation. Indeed laxatives and cathartics of all kinds are unsuited to infants and children.

Why do you say this?

Because these remedies, and all others which move the bowels as their *primary* effect, produce constipation as their *secondary* effect. I think I have already explained how all medicines have a primary and secondary action. The first is the antipodes of the other. Castoria is especially to be avoided, because it contains a narcotic which renders it extremely dangerous for very young infants.

But is there no temporary expedient for constipation which is both safe and efficient?

Surely there is. Whether the patient be infant or child, a hot water enema is both harmless and effectual.

How much water should be used at a time?

This will depend on the age of the child, which, in a general way, indicates the capacity of the rectum just as it does that of the stomach, as before stated, when considering the quantity of food.

For an infant of six or eight weeks, one fluid ounce, or two tablespoonfuls, will be sufficient. At the age of two years this quantity can be safely increased to from four to six fluid ounces.

In using salt enemata the proportions should be one *teaspoonful* of salt to eight *tablespoonfuls* of water.

In using oil instead of salt, twice as much of the former may be used to the same quantity of water.

Always oil or grease the nozzle of the syringe before inserting it. In inserting the nozzle of the syringe, care should be taken to direct it toward the patient's left side, as this follows the natural trend of the lower bowel.

Is water always the best thing to use?

If the rectum has become impacted with fecal matter, it is a serviceable plan to inject into the rectum from one to four teaspoonfuls of olive oil, and allow it to remain for several hours, after which time an injection of warm castile soap and water should be used. In lieu of this, table salt (a tablespoonful to a pint of water) may be used.

If the constipated condition has lasted for several days, the fecal mass in the rectum may have become so hard that it will need to be broken up by the finger, introduced (well oiled) into the bowel, and the mass broken up by pressure. At the same time the passage of the bowels may be assisted by gentle pressure upon

the parts behind the anus, during expulsive efforts made by the child.

Another, and by some considered a preferable means of stimulating the rectum to active efforts, is to substitute for the enemata, glycerine suppositories, which are kept by all druggists. These suppositories should be inserted as far as possible, until fairly buried in the rectum, and they rarely fail to produce the desired result in a few minutes. These suppositories are usually only to be obtained in sizes suitable for an adult, but by cutting them in two or otherwise reducing their size they can readily be made to suit even the youngest child.

Suppositories of castile soap are equally efficacious, and these can be improvised in the nursery, in cases of emergency.

Is not the insertion of the finger into the rectum of a child a painful operation?

Usually not, if the finger is well oiled and the procedure is skillfully performed. The anus is capable of wide distention, and that without pain, unless hemorrhoids be present.

What is the best syringe for nursery use?

The best syringe for children is one of hard rubber, with a smooth nozzle. It should have a capacity of, say, six ounces. In using sweet oil for an enema, one or two ounces is sufficient, and in order that this may be retained within the rectum long enough to act upon the feces, its retention is best secured by firmly pressing a pad of absorbent cotton against the anus for some minutes after the injection, the patient lying meanwhile upon the back.

Have you any other suggestions to make in regard to constipation?

It might be well to remind you that *habit* has much to do with bowel movements. A child should be early taught to be regular in this important matter, and as children of all ages are proverbially careless and forgetful, the mother or nurse must be otherwise, and see that the bowels are moved with rigid regularity daily. It sometimes happens that the food which the baby takes is deficient in fat. This may be so, even with nursing babies. In the latter case, cream diluted one-half with water will prove useful, being fed to the baby once or twice daily with a spoon. With bottle-fed infants who are not gaining in weight, and who are constipated as well, a larger proportion of cream should be added to each feeding; or a teaspoonful (or less with very young infants) of olive oil may be given once a day. The same quantity of drug store "syrup," or, better still, the same quantity of black molasses, will answer a good purpose and is quite harmless. In children over a year old a little stewed fruit, such as prune juice or baked apple, may be tried carefully. With babies of this age or older I have found Mellin's Food eaten dry out of hand a good expedient.

The main thing in regulating the bowels is to regulate the food, and establishing regular habits of going to stool. With older children plenty of fluids, and vegetable rather than animal foods, are usually all-sufficient to keep the bowels in good condition.

CHAPTER VIII.

SPECIAL DISEASES.— COLD IN THE HEAD ; CATARRH.

What are the first remedies to be given to a baby who has just taken a fresh cold?

Arsenicum. This remedy is indicated when there is running at the nose, sneezing; inability to breathe, because the nose is so stuffed up; discharge watery and excoriating.

Nux Vomica. Indicated in same conditions, with additional constipation or indigestion, accompanied with much flatus from bowels.

What is the hygienic treatment?

The nares should be carefully cleansed with warm water as often as they become obstructed, and a little goose grease, olive oil, or white vaseline or lanolin should be smeared on the outside of the nose and lips, and inserted within the nares by means of the little finger or a camel's-hair brush. Infants at the breast, and who are temporarily incapacitated from nursing, should be fed with a spoon until the catarrh is cured. Children who are subject to frequent attacks of cold in the head should be made to wear a light flannel cap when out of doors, and a light mull cap indoors.

What are the first symptoms of sore throat in a young infant?

Pain in swallowing is usually the first recognizable symptom of sore throat in a young infant; it cries whenever it takes the breast or the bottle and makes a forcible attempt to swallow. There is generally fever,

more or less pronounced, and the baby looks sick. If the child is old enough to talk, the speech is thick and nasal in tone. If there is any cause for suspicion that the throat is sore, you should examine the throat carefully to see if the suspicion is well founded.

How do you examine the throat of an infant?

Gentle pressure of the fingers upon the chin is usually sufficient to cause wide opening of the mouth. If this expedient fails, the finger, or, better still, the smooth handle of a teaspoon, or any other smooth, flat instrument, may be inserted in the mouth and downward pressure made upon the tongue. A quick glance will show at once if the tonsils are swollen, or if the back part of the throat is red and inflamed. It is best not to use forcible measures in examining the throat just after the infant has been fed, for vomiting may be induced and the meal lost.

What is the color of a healthy throat?

The healthy mucous membrane is everywhere a little lighter than the normal red of the lips of a healthy adult — a decided pink. It should be smooth, moist, and without spots of white, or deep red.

How does the throat look when there is tonsilitis?

The tonsils are two almond-shaped bodies, situated one on either side of the throat and just back of the fold of membrane which divides the anterior from the posterior fauces. This fold is called the curtain of the palate. Just back of the curtain, and partly concealed by it, are the tonsils. In health they are only visible when in the act of gagging or swallowing, or when a sound like ah! is made. In simple sore throat the mucous membrane lining the fauces and covering the tonsils may be red, but the tonsils are not swollen.

In acute tonsilitis the tonsils are more or less swollen, and are often dotted with a half-dozen or more white spots (follicular tonsilitis), or the tonsils may be greatly swollen without any spots on them, as in *quinsy* sore throat. Sometimes the tonsils are so swollen as to nearly, or quite, touch each other at the middle of the throat, where the hanging palate or *uvula* is situated.

Is tonsilitis dangerous?

If of the simple variety and without exudation, it is not usually attended with danger except with very young infants. Even then the greatest danger is from the disease becoming chronic, and thus interfering with respiration.

What are the symptoms of diphtheria?

Sore throat, and all the symptoms which go with sore throat, and with these symptoms there is generally great pallor, weakness, and fetor of breath. In the very beginning the appearance of the throat is but little different from that seen in tonsilitis. Small white spots are seen on the tonsils, and possibly on the uvula, but in a day or two, often within a few hours, a dirty white patch is formed on one or both tonsils and there is increased weakness, pallor, loss of appetite, and fever.

Does tonsilitis ever lead up to or run into diphtheria?

The two diseases are quite distinct, but occasionally, although very rarely, the one precedes the other.

What are the remedies for sore throat?

If the patient is a young infant, rub the throat externally with camphorated oil. Give internally belladonna, kali bich., the latter especially if there be small white patches in the throat. If there is much fever give an occasional dose of aconite in addition to the remedies just named. If there is not much fever give the kali

alone or in alternation with arsenicum. If diphtheria is prevailing in the neighborhood, or if the sore throat is suspected to be more than a simple *angina* (inflammation), no time should be lost in summoning a physician.

How long does diphtheria last?

In average cases which recover the patches begin to disappear in from five to ten days, often sooner, and are entirely gone in three or four days more. In some cases the deposit in the throat lasts for two weeks or more. The characteristic weakness, which is present, in a greater or less degree, in all cases of true diphtheria, may last for a month or more.

In unfavorable cases the membrane in the throat continues to form, and the child finally dies from exhaustion.

What are the really dangerous symptoms in diphtheria?

The most dangerous symptom in the early stages of diphtheria is *hoarseness*, which indicates that the disease has invaded the larynx. This is the beginning of the most fatal form of croup.

When, in the course of the disease, is this complication most imminent?

It is most apt to come on between the third and seventh days of the disease. Sometimes, however, the membrane attacks the larynx first, and it may be confined to the larynx altogether.

What are the symptoms of croupous diphtheria?

They are the same as are the symptoms of membranous croup; indeed, many authorities regard the two diseases as identical.

The hoarseness, which is the first symptom to manifest itself, gradually increases until the voice is nearly or entirely lost. Then follows rapid and noisy breathing

and the peculiar cough which indicates croup. In such cases the difficulty in breathing is persistent and grows steadily but slowly worse. In this respect it differs widely from false or spasmodic croup, which begins abruptly and has periods of intermission. In diphtheritic croup the child sits up in bed and struggles for breath, looks pale and bluish from the non-oxidation of the blood, and if relief is not speedily afforded the child will die from suffocation.

Are diphtheria and membranous croup identical?

By many they are so regarded, but by others, and they are in the majority, the two diseases are considered quite distinct. For all essential purposes of treatment they may properly be regarded as one and the same thing. There is no essential difference in the treatment of the two affections.

What danger menaces a child just recovering from diphtheria?

Paralysis is a very common sequel of diphtheria and is usually confined to certain muscles, most often those of the throat, which are used in talking. For example, a child whose throat is or has been affected with diphtheria will say, *enk* for egg; *hent* for head; and *au* for all.

Is diphtheria contagious?

It is highly so, and in my opinion every case of sore throat occurring in a family where there are other children, should be isolated from the start, and continue isolated until all danger of infection is passed.

Is this disease, then, infectious as well as contagious?

It is more infectious than contagious. I have known the germs or the poison from diphtheria to hang about a house for more than a year, even after it had been

scrubbed, calcimined, and repainted throughout, and to give the disease to strangers who moved in while ignorant of its past history.

Do you mean to say that all sore throats are contagious?

In the beginning, all forms of sore throat look so much alike that it is not safe to make a hasty diagnosis. This period of doubt lasts for a day or two. Meanwhile, it is safest to separate the sick child from others who might be susceptible, and continue the separation until all doubt is removed.

What disinfectant should be used in cases of diphtheria?

I do not approve of any of the so-called disinfectants. They do not do any good and they are liable to do much harm by loading the air with malodorous vapors, which can not be otherwise than injurious when inhaled into the lungs.

Can you suggest any substitute for these so-called disinfectants?

Plenty of fresh air and plenty of sunshine; these are far better than anything made by man for the purpose of purifying the air of a sick-room.

What is the best treatment for diphtheria?

Diphtheria is often so insidious and so frequently masked by what seems to be some other and less dangerous disease, that whenever a child shows a small whitish spot in the throat it should be isolated directly and a physician sent for. It may be nothing of consequence, at least it may be no more than a simple catarrhal sore throat, but on the other hand it may be the disease which we are considering, and which is attended by so much danger. If it is diphtheria there

is no time to be lost; active measures should be inaugurated without delay, and in a disease fraught with so much danger as this no inexperienced person should assume the responsibilities of treatment. While waiting for the doctor, arrange the nursery as hereafter to be described for the infectious fevers. If there is much fever, give aconite and belladonna alternately every fifteen minutes. If there is diphtheria in the immediate neighborhood, so that there is good ground to suspect that the case in hand is more than a simple malady, give kali bich., three or four tablets in a third of a glass of water; a teaspoonful every fifteen minutes.

If compelled to treat the case alone, the principal remedies, other than those named, are arsenicum, hepar sulphur, mercurius.

Are not gargles and local applications necessary?

Except when ordered by a physician I would not advise them. One of the great dangers in diphtheria is from heart failure from nervous exhaustion. In giving local treatment, either by swabbing, gargling, or spraying, the strength of the patient is taxed out of all proportion to the possible benefits derived. I think, therefore, that, in the long run, local applications do more harm than good.

At what stage of the disease is heart failure most to be feared?

After the acute symptoms have begun to subside, or during convalescence. Under no circumstances should a child suffering from or convalescing from diphtheria be allowed to get out of bed or make any voluntary exertion without help, until permitted by the attending physician to do so. If the child must be taken up, it should be lifted slowly and with great care. Even

after convalescence is fairly established, vigorous exercise should be prohibited for a long period.

What other precautions must be taken in the management of the case?

All clothes used about the patient should be burned at once. If direct applications are made to the throat, whoever makes them must be careful that none of the membrane is coughed into his or her eyes, nose, or mouth.

How should a diphtheritic case be fed?

It must not be forgotten for a moment that depression of the vital forces is one of the chief characteristics of this disease. To antagonize this tendency the food should be as concentrated and stimulating as possible. These cases bear alcoholic stimulants well. Eggnog, whisky sling, wine whey, koumiss, white of egg in water, raw-meat juice, are all useful, and in some cases imperative. Give little food at a time and give it often. Whisky or brandy is better than wine; even dilute alcohol in water or milk is often of great value.

Do you think there is any virtue in pineapple juice or in other fresh fruit acids?

If there is any good to be derived from the juice of fruits it is so insignificant as to be utterly untrustworthy. They can, however, do no possible harm, and may safely be used, if desired, in conjunction with other and more reliable medicines.

Do you believe in operating on the throat in desperate cases?

Most certainly; and if your physician advises it, do not hesitate for a moment about allowing him to do so. An operation will give temporary relief at least, and will

add to the chances of ultimate recovery, while delay or refusal may mean speedy death from suffocation.

How does spasmodic croup commence?

Usually after the child has had its first sleep, or toward midnight. Its onset is sudden. The child awakes with a shrill cough, which is more like a bark; the cough is repeated at intervals, and soon the patient breathes quickly and laboriously. It can not breathe easily while lying down, so sits up in bed or in the nurse's lap. The voice is oftentimes nearly or quite lost, or at best is only a hoarse whisper; the face is bluish or perspiring. The spasm, for it is little else, lasts for a variable period, but rarely exceeds a half-hour — sometimes only a few minutes. The croupy cough and the oppressed breathing may last longer than this, but these, too, subside after a time, after which the child drops asleep, and usually rests quietly for the remainder of the night. There is a tendency to a return of the paroxysm on succeeding nights unless obviated by treatment.

Is this form of croup attended with danger?

The symptoms which attend the attack are out of all proportion to the real danger. It is generally the result of exposure to cold, or to the east wind. It is sometimes doubtless due to indigestion. It is frequently the result of family predisposition. Some children suffer from repeated attacks, while others are never so afflicted. The symptoms may or may not be preceded by hoarseness during the day, but the acute attack always begins suddenly and nearly always in the night, with a sharp, barking cough, with a decided metallic ring to it. It differs decidedly from that more serious form of croup in which there is a formation of membrane, for in the latter case there is no paroxysm, no sudden onset

and then a speedy amelioration, but a steady and persistent increase of hoarseness and difficult breathing.

At what age is spasmodic croup most frequent?

The disease is most common in the third year of life. It is seen but rarely after the age of six years.

What is the treatment?

The principal treatment should be preventive. Children addicted to croupous attacks should be scrupulously guarded against exposure to wind and dampness. As soon as the first croupy cough is heard, give the child a half-teaspoonful of white vaseline, and if not relieved in half an hour repeat the dose.

A very efficient method of treating croup is by means of the steam atomizer, which is kept for sale by nearly all druggists and by all medical instrument makers. By this means the air can be saturated with moisture, which has a very relaxing effect on the croupous paroxysm.

In lieu of the steam atomizer, the same effect can be practically secured by means of a teakettle or teapot, if so arranged that fire can be kept underneath it. There is a regular apparatus made for this purpose, called the *croup kettle*.

By inclosing the bed of the sick child with light curtains the vapor can be brought closer to the patient. Remember that the idea is not to have the child inhale steam, but vaporized air.

What homœopathic remedies do you advise in spasmodic croup?

The leading medicines are aconite, hepar sulphur, spongia, and tartar emetic. Never give aconite under any circumstances unless there be fever, and a quick, full pulse. A few doses of hepar sulphur will gen-

erally afford relief, if given at frequent intervals, say every fifteen minutes. To obviate a return on succeeding nights, keep the child indoors, and alternate hepar sulphur with spongia at hourly intervals during the day. In addition to this, grease the child's throat and breast with camphorated oil or with vaseline.

Is croup ever caused by a deranged stomach?

Indirectly it is often so caused, but usually there is some other cause superadded.

Will ordinary spasmodic croup run into true croup?

No, the two diseases are quite distinct, and the one does not tend to lead up to the other.

GLANDULAR ENLARGEMENTS.

What causes a child's glands to swell?

It is generally due to cold. Children who are subject to glandular enlargements should be very warmly clad, and the glandular system should be kept active by frequent baths, massage, and an out-of-door life.

Is there any danger in these glandular swellings?

They are very prone to suppurate and leave scars. In some cases, but not always, they indicate a scrofulous or tuberculous state of the constitution. If the swellings are more than "*kernels*," you should call the attention of your physician to them and be guided by his advice.

What medicines are useful in this condition?

Mercurius, sulphur, arsenicum, and calcarea phos.

BIRTH-MARKS.

What are birth-marks?

They include *neavi* and *moles*. A neavus consists of a blood-red or purplish patch of various size and shape

on the skin, sometimes on a line with the skin, and sometimes elevated above it. A "mole" is a dark, pigmented spot on the skin, either flat or slightly elevated, and commonly, but not always, covered with hair. Moles are generally small, but are sometimes sufficiently large to cause great disfigurement.

What causes these so-called birth-marks?

The popular belief that they are caused by some impression made upon the mind of the mother while the child is in utero is a fallacy. At least the theory is not borne out by facts and critical observations.

Are they curable by medicines?

No; they are only removable by surgical means, and sometimes not even then.

RED GUM.

What is the meaning of red gum, and what causes it?

This is the common or vulgar term for a disease quite common in early life, and which is due to congestion about the orifices of the sweat follicles. It is characterized by the appearance of small red or white papules ranging in size from a pin's head to a millet seed.

Where is its principal seat?

On the face, neck, and back, but it may be spread all over the body. It is met with most frequently during teething, and hence is often referred to as "tooth rash."

It is often caused in very young infants by overclothing; in older children it often proceeds from some gastro-intestinal disturbance.

How long does it usually last?

From two to three days to a week or more.

What is the treatment?

See that the clothing is not too warm. If the gums are swollen or tender, they should be lanced.

Internally, give *chamomilla*, or, in chronic cases, *calcarea*.

PRICKLING HEAT.

What is prickling heat?

It is a very common affection in infants, and consists of a great number of minute elevations, red in color, which are closely crowded together. They are most numerous about the neck and over the trunk where there is abundant perspiration. The disease is most common in summer, and is attended by more or less burning and tingling.

What is the best treatment for it?

The clothing should be made as cool as safety will permit. Frequent cool baths should be given, and after the bath the affected parts should be rubbed over with olive oil. The itching may be sometimes relieved by bathing the parts with a solution of saleratus (one teaspoonful to a pint of water), or the parts may be dusted over after the bath with starch powder. No internal medicine is necessary.

MILK CRUST; SCALD HEAD; ECZEMA.

What is milk crust?

It is the most common of all infantile skin diseases, and is often the most obstinate. It is apt to last for weeks and even months. It is very frequently met with during the first year of life, but all ages are susceptible to it. Its most frequent seat is the head, the crotch, the groins, and the folds of the joints generally.

What are the symptoms?

At first a patch of skin or scalp becomes bright red, and is covered with minute vesicles of the size of a pin's head. These little vesicles soon rupture and exude a serous, sticky fluid, which forms a crust of variable thickness, with moist, raw flesh underneath. This is the most common form. In other cases the skin is dry, red, thickened, and somewhat scaly. In this form, which is commonly called *salt rheum*, the skin cracks readily and often bleeds.

There are still other varieties, but those just described are the most common. In all forms the itching is intense, and it is difficult to keep the child from scratching and tearing the skin. The itching is generally worse at night, and may render the child restless or sleepless.

What is the cause of this disease?

The causes are very variable, and sometimes it is impossible to find the cause. Probably the most common cause is a lack of cleanliness, or the use of an irritating soap. Improper diet often cuts a figure, especially the early use of starchy food. There is frequently an inherited tendency to eczema. In other cases a debilitated constitution is the cause.

What is the treatment for eczema?

There is great tendency for the disease to spread; therefore as little time should be lost as possible in placing the child in the care of a physician. In the meantime the mother should investigate and obviate the cause, so far as it can be ascertained. All soap, other than castile, should be discarded, and even this soap should not be used if it seems to produce any irritation. The hands should be put into mittens or bound to the sides, if the inclination to scratch can not be otherwise

controlled. The less water used about the affected parts the better. Boric acid lotion (one-half ounce to a pint of water) makes a good cleansing wash, after using which, the skin, if red and weeping, may be dusted with bismuth and zinc powder.

℞ Subnitrate of bismuth.....½ oz.
Oxide of zinc .....½ oz.

Mix and make into a very fine powder. The crusts may be removed by soaking them in olive oil.

What internal remedies are to be used?

Arsenicum, graphites, rhus tox, and *sulphur*. Whichever remedy is used, it should be given hourly while the child is awake.

BOILS.

What are boils?

A boil (furuncle) is an acute localized inflammation of the skin and connective tissue. They vary in size from a small pea to a hickory nut, having a hardened and inflamed base, and usually terminate in suppuration and the formation of a core.

Boils may occur singly, but more often they come in succession, one being the precursor of others.

Is it true that boils are a sign of good health?

They are never a sign of robust health, but always indicate the opposite. There is always, when boils are present, more or less impairment of the general tone of the system, although it is a fact that some children show a disposition to them while apparently well in other respects.

Where are they most apt to locate themselves?

There is no favorite seat for boils. They are liable to come anywhere.

How long does a boil usually last?

From five to seven days. It commences as a small, roundish, inflamed spot, red and tender to the touch; it gradually increases in size, and the pain, which is usually of a throbbing character, increases in intensity until the swelling is opened or bursts and throws out a central slough called a "core." In some cases the suppurative stage is not reached, and no core forms. They are then called blind boils.

What treatment do you recommend?

When a boil is tense and hard, the best local treatment consists in applying hot poultices of ground flaxseed or tomato poultices. As soon as the boil opens, the poultices should be stopped, as, if too long used, they encourage the formation of new boils. For after-dressing use calendula cerate.

What internal remedies are useful?

Tartar Emetic: For boils on the perineum or on the buttocks, especially if accompanied by gastric derangements.

Arnica: Many small boils on the face or head.

Merc. Sol.: Boils on the ankles. Coldness of feet and hands. Pain from the boils is worse at night.

CHAFING.

What causes chafing in a young infant?

Chafing is liable to occur wherever two moist surfaces of skin are constantly touching each other, or it may be caused by a sour diarrhœa, which excoriates the skin about the anus. In fat babies, chafing is common in the folds of the neck, in the armpits, and about the thighs and groins. When the attack is severe, the skin is bright red, tender, and raw.

What is the treatment for this disease?

The treatment should be both preventive and curative. The former is best secured by greater attention to cleanliness, by more frequent changing of the diapers, and the subsequent free use of some baby powder. If caused by an acrid diarrhœa, the free use of vaseline will subserve a useful purpose. An excellent application for this trouble is made as follows:

For chafing:

℞ Boracic acid ..... ʒ i
Glycerine ..... ʒ i
Balsam, Peru. ..... ʒ i
Vaseline, white ..... ℥ i
M. Ft. Ungt.

This is sold in drug stores and in pharmacies as a specific not only for chafing, but for various skin eruptions.

HIVES (NETTLE-RASH).

Do young infants ever have hives?

They do occasionally, but not often. Children are very often affected by them.

What are the symptoms?

They consist in numerous raised blotches, which are whitish or pinkish in color, and variable in size, being sometimes no larger than the finger-nail, and again are as large as half a hen's egg. They are very capricious, coming out suddenly, and as suddenly disappearing. They burn and sting with great intensity. They closely resemble the elevations produced by the sting of insects. Unless the skin is broken by scratching, they disappear without leaving any mark or scar.

What causes nettle-rash or hives?

The causes are various, but generally are associated

with some error in diet or getting the blood overheated. An overloaded stomach is often at the bottom of an attack, and children who eat much meat are quite subject to this disorder.

What is the treatment?

Correct all errors in diet. Locally apply warm vinegar and water — half and half. An excellent wash is made as follows: Benzoic acid, five to ten grains; water, one ounce.

A weak carbolic-acid lotion at times acts well.

Internally, give apis mellifica or arsenicum. Sometimes belladonna or bryonia is indicated.

VOMITING.

Is vomiting in a young infant a symptom of any great gravity?

This depends wholly upon the cause which occasions it. Simple regurgitation of food, which is quite common in young infants, at the most means only that the stomach is overloaded. It is very different with true vomiting, which is accompanied with coldness of the skin and cold perspiration. These latter symptoms indicate nausea. If vomiting ceases after the stomach is unloaded, it need not be regretted, but it does not always indicate a disordered stomach. It frequently ushers in some acute disease like meningitis or scarlet fever. In case the vomiting is repeated again and again, a physician should be consulted at once, as it may, if neglected, bring the patient to a condition which is truly alarming.

What are the first remedies to be given?

For the simple vomiting and the attendant nausea, the first remedy to be given is ipecac. This should be

followed or alternated with aconite, if there be fever, or belladonna, if there is headache. If the vomiting is regarded as due to a disordered state of the stomach, give nux vomica at intervals of half an hour. No food of any kind should be given for several hours after an attack of persistent vomiting, but complete rest, without jolting, rocking, or trotting on the knee, should be enjoined. The first food given should be very bland and unirritating, like barley water or albumen water.

HEADACHE.

Do infants ever suffer from headache?

Undoubtedly even very young babies do thus suffer, as is indicated by a wrinkling of the brows, persistent crying, rolling of the head from side to side, or repeatedly putting the hand to the painful region.

What causes headache in infancy?

The causes are very numerous, and often are difficult to ascertain. All forms of brain disease, but especially inflammation of the brain (meningitis), fever from whatever cause, neuralgia, indigestion, constipation, etc.

What can be done to relieve it?

Perfect rest and quiet are essential. The light should be turned very low. The head, if hot, should be bathed with warm water. If constipation is a likely cause, lose no time in giving an enema. Internally one of the following remedies should be given: Belladonna, gelsemium, or cuprum. The first remedy mentioned is especially useful if the child starts and jumps at every noise or wakens up from sleep with a start and cry.

Children who suffer with headache should be most tenderly cared for, and the development of the brain should be repressed rather than encouraged.

INSECT STINGS.

What is the best application for the bites of insects?

Insect stings are seldom dangerous, but are often the cause of much suffering. If the sting of the insect is still in the wound, remove it with tweezers. Bathe the wound with witch hazel or *arnica tincture*. In lieu of these, dilute ammonia (ammonia water) or spirits of camphor. If nothing better is at hand, apply a mud poultice, which has at least a prestige as ancient as mud itself. There is nothing better for mosquito bites than camphor or thymol.

WHOOPING COUGH.

What are the first symptoms of whooping cough?

The first symptoms do not differ from those attendant upon an ordinary cold. The early cough is like that of bronchitis, except it does not yield to medicines. After a period varying from a few days to two or three weeks, this first stage, called the stage of invasion, is passed, and then follows the second stage — the whooping or paroxysmal stage. Already it is noticeable that the cough comes on by spells, which grow longer and more intense day by day. These spells or paroxysms are usually more and more frequent at night. In a very mild case the paroxysms do not number over five or six in twenty-four hours, but in some cases there are forty or fifty, or even more.

What is the special characteristic of this developed cough?

The child gives a more or less prolonged series of rapidly repeated short coughs, without taking breath, meanwhile showing symptoms of impending suffocation, as exhibited in the blueness of the face and the

look of anxiety and fear expressed in the countenance. At last it makes a long-drawn inspiration, which is attended with a peculiar, loud, crowing sound, which is the *whoop*, so-called. At the termination of a paroxysm of coughing a considerable quantity of tough, stringy mucus flows from the mouth, which is not infrequently tinged with blood. In many cases the attack ends with vomiting. A spell of coughing is easily excited by eating dry substances, like crackers, and in some cases every attempt at eating is aborted by cough and vomiting. The child early learns to dread the paroxysm, and as soon as the first symptoms of cough are felt seizes its nurse or mother, or in their absence a chair or table, and clings there until the paroxysm is over.

How long does the second or paroxysmal stage last?

From two to three weeks, unless sooner terminated by successful treatment.

What follows the second stage?

The stage of decline, during which the paroxysms become less and less severe, the cough becomes looser, the "whoop" is less marked, the vomiting is less frequent, and in short all of the symptoms abate until the child is finally left with a mild bronchitis, which may last for an indefinite time.

Should a child with whooping cough be allowed to go out of doors?

In the country, and especially if the air is mild and free from dampness, there is no harm in permitting out-of-door exercise. Cold air and damp air, however, are apt to provoke and aggravate the cough, and hence should be avoided. If an attack of whooping cough should begin in the late autumn, the cough will be likely to remain more or less troublesome throughout the winter.

Do all cases exhibit the characteristic whoop?

In mild cases there is frequently an absence of the whoop; in others it is only noticeable a few times in the whole course of the disease.

How, then, do you know that the disease is whooping cough?

By the persistent and unyielding character of the cough, and by its coming in paroxysms.

How long is whooping cough contagious?

The contagious principle seems to reside in the expectoration and in the breath. It is active throughout the whole course of the attack, but close contact is necessary for its dissemination. It can not be carried by a third person. It is quite safe to say that a child having whooping cough should not mingle with other children for at least two months from the date of attack.

What are the principal dangers from whooping cough?

If the attack is at all severe there is danger of convulsions; there is also danger of rupture (hernia), and occasionally the cough is severe enough to cause *prolapsus ani.*

Is there any prophylactic for whooping cough?

No, none whatever.

What are the chief remedies for this disease?

Under homeopathic treatment it is sometimes possible to abort the disease during the first week of the attack, but in all cases the *severity* of the attack can be ameliorated. The room in which the child sleeps should be well aired during the day; all draughts should be avoided, and the body of the patient should be warmly clothed. The remedies most to be relied upon are *belladonna* and *ipecac*, given alternately every hour

while the child is awake. In some cases hyoscyamus will prove better than belladonna. Other remedies are drosera, corallium rubrum, and moschus.

Is it true that babies under three months of age, attacked by whooping cough, never recover?

It is not true. At the same time the disease is generally conceded to be more severe, as a rule, the younger the victim.

CONVULSIONS.

What is the first thing to do in case a baby has a convulsion?

It should be undressed as quickly as possible and immersed in a warm bath up to its neck, while cold water should be applied to its head. The water should be as hot as can be well borne, 105° F., or even 110°. It should be kept in the bath for from five to ten minutes, and then wrapped in a blanket without drying. If the spasm returns, the bath should be repeated.

If the baby has eaten or swallowed anything of an indigestible nature, the mother's finger should be used to excite vomiting. If the bowels have not been recently moved, a hot-water enema should be given. Convulsions are frequently due to obstructed bowels. Internally, give belladonna or cuprum, a dose at intervals of five or ten minutes.

NOTE.—It must not be forgotten that in young infants spasms are often the precursor of some contagious disease like measles or scarlet fever. They are also occasionally due to difficult dentition. A skillful physician is often puzzled to know just what is the immediate cause of the spasm. Mothers should also remember that convulsions are not necessarily fatal, and so should not be needlessly alarmed or so frightened as to neglect proper measures for relief.

PARALYSIS.

What is paralysis?

It is loss of power to move certain parts, and may be limited to a single limb or be widespread.

What causes it?

The causes are very various. New-born infants are sometimes paralyzed from pressure occurring naturally during a tedious confinement; occasionally but very rarely it is caused by the use of instruments at the time of birth. The latter form of paralysis is usually superficial, and does not involve the brain. It, therefore, is, as a rule, soon recovered from. Paralysis frequently follows *diphtheria*, and is generally local, being confined to the muscles of the throat or eyes. Occasionally it is general, but in nearly all cases recovery takes place in a few days or weeks, unless it involves the heart or respiratory function.

What is the treatment for paralysis?

For that form following diphtheria, *gelsemium* is nearly specific. In other forms, *nux vomica* may be useful. Massage of the palsied parts is beneficial, and in chronic cases electricity is valuable.

RHEUMATISM.

Do babies ever have rheumatism?

Not very often, but occasionally they do. If an infant cries whenever it is handled or moved, it is tolerably certain that it has either rheumatism or rickets.

How can I tell the difference between the two?

Rheumatism comes on suddenly, and is usually attended with more or less fever, while rickets comes on more gradually, and must be quite advanced before

the bones and muscles are so sore and sensitive that handling is painful.

Is there any danger from rheumatism in infancy?

There is more danger from it in infancy than in adult life. Even very slight attacks of rheumatism are apt to be followed by heart disease, and St. Vitus dance often succeeds an attack of rheumatism.

What is the proper treatment for rheumatism in infancy?

Perfect rest should be enjoined, so that the heart may not be overtaxed, and the affected parts should be swathed in cotton. Internally, bryonia should be given hourly, and aconite should be alternated with it if there is much fever present. If the joints are red and swollen, rhus tox. is the remedy.

What are "growing pains," so called?

Growth does not produce, nor is it accompanied by, pain. What is called "growing pains" is in reality rheumatism, and this fact should not be overlooked nor underrated. Even slight attacks of rheumatism in infancy and childhood are liable to be followed by serious heart troubles, and they should, therefore, receive careful and judicious treatment. Woolen clothing is very necessary in such cases, and great care should be taken to avoid wet feet and dampness generally.

RICKETS.

What are the first symptoms of rickets?

It is always suspicious when a baby reaches the end of its first year without a single tooth (a hearty baby should have six or eight). It is doubly suspicious if the anterior fontanelle, which is the soft spot in the head just above the forehead, is as much open as it was some

months previously. This fontanelle ought to be closed in a well-nourished infant by the fifteenth to the twentieth month. If, in addition to these symptoms, the child sweats about the head whenever it sleeps, cries whenever it is handled, and dislikes play and sports which other children of like age delight in, the evidence is pretty conclusive that the child is rachitic.

At what age is rickets most common?

Between the ages of six months and two and one-half years, or during babyhood.

What causes rickets?

Insufficient or badly chosen food is the most common cause. Nursing babies are seldom troubled with this disease unless the mother is herself ill, or continues nursing too long, *i. e.*, into the second year. Starchy foods, too little milk or other animal food, taking the infant too early to the family table and permitting it to eat whatever it wants — these are the most common errors in baby feeding which too often result in rickets. Other causes are: insufficient clothing, damp and badly ventilated dwellings, a lack of outdoor air and sunshine, and lastly inherited constitutional weakness.

Are rickety babies usually fat or lean?

They are often plump and even fat, but they are weak and do not walk early. The teeth are more or less delayed and decay early.

What other symptoms are characteristic of rickets?

When the disease is fully established the abdomen is much distended and full of wind; the child is very restless; refuses to be covered when asleep. A little later there is a perceptible enlargement of the wrists and ankles, and especially at the junction of the ribs and the breast-bone (or *sternum*). As the sternal end

of each rib is enlarged it produces a semblance to a row of large beads under the skin, which is often referred to as the "rickety rosary." A little later still, the head is found enlarged and is square or box shaped. The forehead projects and the sides of the head and the top are flattened.

Is there any hope for such a case?

If the disease is taken in time there is every chance for arresting its progress, but if unrecognized until changes in the bones have taken place, their perfect repair is impossible. These children are stunted in their growth, and often have bow legs or curvature of the spine.

Do children ever die of rickets?

The disease is seldom, if ever, directly fatal, but rickety children do not withstand other diseases well. They are prone to diarrhœas, pneumonia, and all the contagious diseases go hard with them.

What treatment do you advise for this complaint?

Change the food, whatever it has been, for however good for other babies it is not the proper food for this one. Give the rickety baby more fresh air and sunshine. Change of air is often very useful. Let the infant's body be anointed every day, or twice a day, with cod-liver oil. Do not urge the child to stand on its feet, or the legs will bend. In addition to the regular food give raw-meat juice at least once a day. Internally give a tablet of *calcarea phos.* three or four times daily. Pay especial attention to any chance disturbance of stomach or bowels. This treatment must be continued for weeks or even months. Do not be discouraged if you do not see immediate results. Improvement is always slow and tedious.

MARASMUS.

What am I to understand by marasmus?

It is a term applied to infants who, however much or little they eat, grow thinner and thinner. It means the same as wasting. There is a constant and progressive wasting or fading away of the body. It is not a distinct disease, but is the result of various conditions.

What is its cause?

The causes are various — syphilis, tuberculosis, chronic vomiting, persistent diarrhœa, mal-assimilation of food.

What is the proper treatment for it?

First ascertain and remove the cause. The further treatment is quite similar to that just given for rickets.

HYDROCEPHALUS.

What is the meaning of this term?

It signifies *water on the brain.* It is a species of dropsy.

What are the symptoms?

There is an enlargement of the head, caused by the large amount of fluid within the skull. The head is not square, as in rickets, but round and full; the fontanelles bulge, and the face looks sharp, small, and peaked. In bad cases the mind is affected, and the will has but little control over the body.

Is treatment of any avail in this disease?

Some cases recover under skillful medical care, but the treatment is too intricate and scientific to be outlined here.

INFLAMMATION OF THE BRAIN.

What are the early symptoms of brain disease?

In inflammation of the brain the temperature is usually very high — 104° F., or even higher. There is stupor or delirium, and vomiting is common. There is intolerance of light, and the child jumps and starts at the slightest noise, unless the stupor is so profound that the hearing is affected. There is also frequently a squint, or the eyes are turned upward, and in sleeping the lids are only half closed. The pupils of the eyes are either expanded, or in other cases they are contracted. Sometimes one pupil is larger than natural, while the other is smaller.

What are the remedies to be used while waiting for the doctor?

Bathe the head in cold water, or apply ice to the head. Darken the room and keep it as quiet as possible. Give no food except under the doctor's directions, unless it be of the blandest character, and then but very little at a time. Give aconite and belladonna alternately every fifteen minutes until the doctor arrives, when, of course, you will follow his directions.

SNUFFLES.

What causes "snuffles" or "sniffles" in a baby?

Cold; it is *infantile catarrh.* The nose is blocked up with mucus, so that when the infant attempts to nurse, it can not perform this function and breathe at the same time; hence it takes a few sucks, drops the nipple, and cries. The need of the lungs for air is more imperative than anything else. After the respiratory function is satisfied, hunger asserts itself again, and sucking continues until impending suffocation compels another

rest. Catarrh is very common in infants. It is often a cause of colic, by the rapid influx of air when the mouth is opened. It is also a frequent cause of tonsilitis. The catarrh itself may become chronic, which is a difficult thing to cure. I would like to impress upon the mothers and nurses who read these pages the necessity of avoiding this trouble, and using prompt measures to cure it whenever it occurs. It is one of many diseases which are preventable by proper care, and easily cured if taken in hand early.

What is the proper mode of treatment?

First, pay attention to the prevention of the trouble. Avoid draughts in the nursery while the baby is taking its daily bath. If doors must be opened, or are liable to be, let the bathing be done behind a screen. It often happens that the nursery is over-hot, or the bath may be progressing before an open fire, in which case the opening of an adjacent door brings a blast of cool air on the baby's body, and a cold is the inevitable result. A little precaution would avoid the evil. If the child's nose is stopped up so that breathing through it is difficult or impossible, the nostrils should be cleansed of mucus by means of a small probe wound with cotton, or still better a camel's-hair pencil. This should be dipped in warm water and inserted up each nostril, carefully twisting it around until the mucus is dislodged. The lining membrane of the nostrils should then be smeared in like manner with white vaseline. Before vaseline came into use, mothers used to find goose grease a sovereign remedy for this trouble — greasing the nose freely with it, both inside and out. It is still a procedure which has lost nothing from its antiquity.

The proper remedies for internal treatment are arsenicum, nux vomica, and if the eyes water and

inflame from acridity of the tears, *allium cepa* is quite specific.

COLDS AND COUGHS.

In what other ways does an ordinary cold show itself besides snuffles?

In sore throat; fever and a cough, which may indicate bronchitis or pneumonia; or in acute pain about the chest, which may mean pleurisy. Cold may also affect the stomach, producing indigestion; or it may cause a diarrhœa by closing the pores of the skin and throwing an excess of humors on the mucous lining of the intestines.

What are the symptoms of pneumonia?

High fever, shortness of breath, sometimes a chill or chilliness. Sometimes the disease comes on suddenly with a convulsion, or it may develop slowly from a preceding bronchitis. Besides the high fever and a flushing of one or both cheeks, there is a short, frequent, and painful cough — a catchy breath — and there is a moving in and out — a flapping — of the wings of the nose. In bad cases the respiration is so embarrassed that the pit of the stomach, the spaces between the ribs, and the muscles of the neck, all participate in the effort to secure air for the blood, which is imperfectly furnished by the congested lungs. A child thus affected pays no attention to playmates or toys. It is too much occupied in getting enough air to carry on the vital processes. The lips are bluish and the breathing is rapid and shallow.

Is this disease attended with any special danger?

It is always serious, and should not be neglected for a moment. It should be said that *pneumonia, congestion of the lungs, "lung fever," capillary bronchitis,* and

inflammation of the lungs all practically mean the same thing. The symptoms of each and all are so nearly alike that the most skillful physician is often puzzled to make a correct diagnosis.

But is not the treatment different according to their different names?

No. Names are of no value whatever in the selection of remedies. The symptoms afford the only key to the choice of medicines. If the case develops suddenly, with high fever and cough, give aconite and belladonna alternately every half-hour, or even oftener for awhile. If improvement sets in, give the medicines at less frequent intervals. If the breathing is much embarrassed and the lips blue, give *phosphorus*, especially if the cough is tight and hacking. If the cough is loose and rattling, tartar emetic (antimonium tartaricum) is the remedy. It is often advisable to alternate these two remedies, giving them at frequent intervals until improvement is noticeable. Other remedies are *belladonna*, when the cough is attended with sore throat, also when the cough is worse at night. *Bryonia* is indicated when the cough is tight and painful — the infant cries every time it coughs, as if it hurt. Mercurius is an excellent remedy for a cough which is worse at night or when lying down. It is all the more indicated if the bowels are loose and the stools light-colored — ashy or clayey.

Are external applications advisable in this disease?

In all forms of congestion of the lungs I like the use of flaxseed poultices. As the congestion is nearly always more in the back part of the lungs, a poultice jacket which will completely envelop the body is the proper thing. To make this jacket, take a piece of muslin, linen, or cheese-cloth, wide enough when doubled

to reach from the lower margin of the ribs to well up under the armpits, and long enough to go a little more than around the chest. Open the double fold and spread the hot mass of poultice on one-half of the cloth and fold the other half over it. It should be applied as hot as can be comfortably borne, and covered with oil silk or paraffine paper, so as the longer to retain the heat and moisture. The poultice should be renewed as often as it gets cool — every few hours — and the fresh poultice should be all ready to put on when the old one is taken off. Place the open end of the poultice uppermost, so that the contents will not fall out.

PLEURISY.

What is pleurisy and what are its symptoms?

Pleurisy is an acute inflammation of the serous membranes lining the cavity in which the lungs are situated. This membrane not only covers the wall of the cavity itself, but also invests the lungs themselves, so that between the lungs proper and the serous wall of the thorax there are two serous surfaces touching each other. When inflammation affects any portion of this membrane it is almost sure to affect both surfaces. Whenever a serous membrane is inflamed anywhere, the first effect is to produce dryness of the surface; the next and quickly following effect is for the membrane to secrete an excessive amount of serum. The serum is the watery part of the blood — indeed, it is all of the blood deprived of the corpuscles. Now this serum is rich in that plastic element of the blood known as fibrin, and in pleurisy this fibrinous serum glues the two walls of the chest-lining together, so that every motion produces pain on the side affected.

Does pleurisy then affect only one side of the body?

Acute pleurisy is nearly always unilateral, or one-sided.

Is there much fever in this disease?

There is usually not as much fever as pain, but sometimes the fever runs quite high.

Is there much danger attending this disease?

Pleurisy is rarely a primary and sole disorder. It more frequently accompanies some other disease like pneumonia or tuberculosis, and then is to be regarded as a complication. Still it may stand alone and be a primary disease.

How can one tell if a child is suffering from pneumonia or pleurisy?

The symptoms of pneumonia have already been described. In pleurisy the child cries whenever moved, and, if old enough to talk, says the pain in the side is like the cutting of a knife. If the effusion into the chest cavity is considerable, the spaces between the ribs are bulged out, making the affected side fuller than the other. Ordinarily the fever in pleurisy is less than that of pneumonia, but when the two are combined the temperature is sometimes, usually in fact, very high.

What are the chief remedies for pleurisy?

Topically, the treatment is the same as for pneumonia. The affected side should be swathed in cotton sprinkled over with camphorated oil, or the jacket poultice may be used instead.

Internally give *bryonia* and *arsenicum* alternately every half-hour. *Belladonna* is also a very useful remedy if the child is restless and complains of headache. There is also danger that the effusion, if considerable, may degenerate into pus, and if so the ser-

vices of a skillful physician or surgeon are necessary to puncture the thorax and let it out.

WORMS.

Do nursing infants ever have worms?

Never, if only breast milk is used. If, however, raw-meat juice or cow's milk (unsterilized) is given, worms are possible.

What are the symptoms of worms?

There are no distinctive and reliable symptoms of worms. You can only be sure that a child suffers from worms when you see the worms yourself. The irritation which worms produce in the alimentary canal is or may be produced by any other irritating cause, such as indigestible food, or an acrid and irritating condition of the intestinal fluids. For our present purpose it is only necessary to consider the small *thread worms*, or *pin worms*, as they are frequently called. They are from a quarter to half an inch long, and resemble very closely an animated piece of linen thread. They cause the most intolerable itching. They inhabit the lower part of the bowel, and can be seen about the anus, if the buttocks are quickly spread apart before a bright light. The best time to observe them is a half-hour after the child has been put to bed for the night.

What is the treatment if symptoms of worms be present?

The chief remedies for the *symptoms* of worms are *cina* or *santonine*. If the only ground for suspicion that worms are present is nervous restlessness and irritability, *gelsemium* or *belladonna* may afford relief. If the evidences of pin worms be actual, give an injection of an infusion of fresh garlic for two or three

nights in succession, using a small bunch of garlic in a pint of water steeped down to one-fourth pint. Another method which is often successful is to anoint the anus for several nights in succession with sweet oil, using the little finger to insert the oil as far into the rectum as the finger will reach. In case these measures fail the advice of a physician should be sought and his directions followed. A weak solution of corrosive sublimate is sure death to the parasites, but it should never be used without medical sanction.

A prominent physician of my acquaintance says that pin worms may be made to promptly disappear with injections, *per rectum*, of cod-liver oil, pure or made into an emulsion with the yolk of an egg. It is non-irritating, and is said never to have failed to effect a cure.

Is it wise to give patent worm medicines in case a child has worms?

You should never give or take patent or proprietary medicines under any circumstances. All of them are to be avoided, for the good and sufficient reason that every case of illness is a special study, and exhibits peculiarities all its own. If the infant or child is so ill that it baffles your domestic skill, call a physician, but never give it medicines from the drug store, the ingredients of which you are ignorant of. While the medicine may have helped your friend's child it might do *yours* infinite harm.

Is improper food the sole cause of worms?

Yes; worms never gain entrance to the body except through food or drink.

When there is positive proof of the presence of worms, is it likely that in time they will disturb the nervous system?

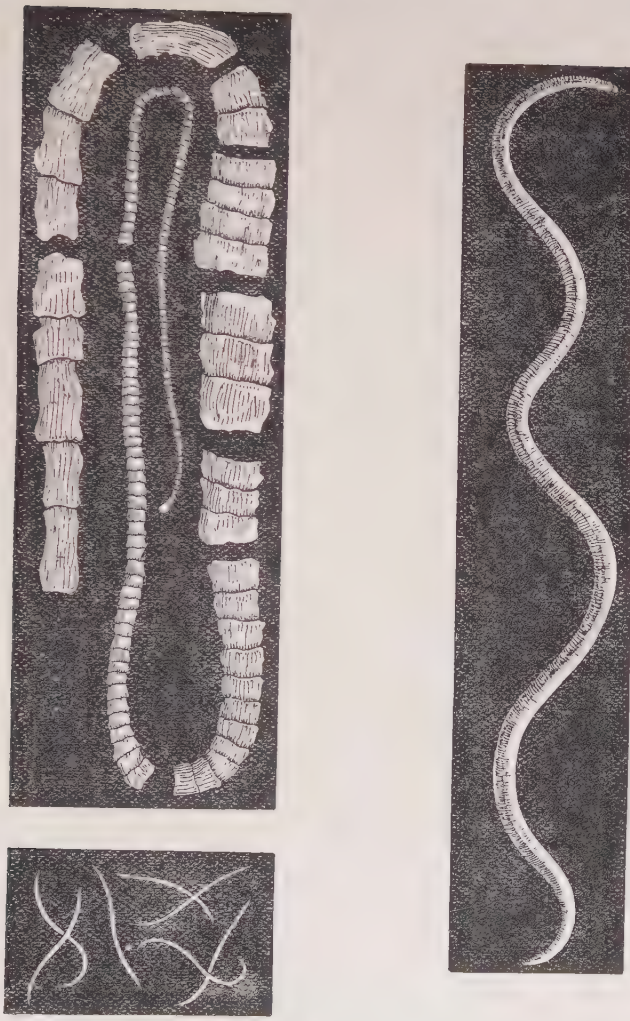


Fig. 10.

It is almost certain that they will. The little thread or seat worms produce a fearful amount of irritation, that sets a child nearly frantic.

Can a nervous trouble of the eyes, such as squinting, and twisting of the muscles of the mouth and nose, come from worms?

Easily, because the nerves which supply these parts are very susceptible to reflex irritation. But you must remember that this irritation along the alimentary canal may be something else besides worms. *Any* irritation, from whatever cause, may produce such effects.

Is it true that modern physicians advise circumcision in all cases of male infants?

It is not always necessary, but it is advisable in most cases. It is quite impossible to maintain cleanliness of the parts if the foreskin is incapable of being retracted. Consult your physician upon the subject, and be guided by his judgment, after he has made a careful examination.

At what age is this operation best performed?

It may be done at any time after the baby is a week old, and after this age the sooner the better, unless there be some good reason for its postponement ulterior to the operation itself.

Supposing it is not done, what ill consequences are likely to follow?

The vile habit of masturbation is not infrequently the result of conditions which might have been obviated by this operation. Various reflex nervous troubles are now well known to be caused by a narrow and contracted foreskin.

Is there any danger accompanying the operation?

None whatever, if properly performed.

FOREIGN BODIES IN THE EYE.

What is to be done if a cinder or other foreign body gets into the eye?

First use every necessary means to prevent rubbing the irritated eye, for this only increases the inflammation. If the foreign body is not sharp, or thrown into the eye with sufficient force to imbed itself in the membranes of the eye, the flow of tears will, if let alone, wash the object out in a short time. If the object adheres more firmly, draw down the upper lid, by means of the eyelashes, until it overlaps the lower lid, and then let it go. The lower lashes will often sweep the offending body out. If this procedure does not succeed, take a soft camel's-hair pencil and, drawing the lid down as before, sweep the inner surface with the pencil, moistened with a weak solution of powdered borax and water.

What is to be done if a child gets something in its ear?

Children are very prone to put peas, shoe-buttons, beads, and similar objects into their ears, and it is sometimes no easy matter to extricate them. If the object is so deep in the ear that it can not be seen, its removal should be left to a physician, for serious damage may be done by awkward and unskillful attempts to extricate it. If no physician is at hand, lay the child on the affected side and draw the lower lobe of the ear outward and backward. This will straighten the canal and the object will sometimes drop out. If it does not do so, the ear may be syringed with tepid water, placing the nozzle of the syringe at the upper part of the opening of the canal so that the water may go behind the object and wash it out while returning. No alarm need be felt nor haste exercised in removing a foreign body from the ear, if no pain is felt from its presence.

If an insect or a bug crawls into the ear, as sometimes happens, sweet oil should be poured into the ear and left for a time, after which the ear should be syringed out with tepid water.

If the foreign body is in the nose, what is the proper procedure?

The treatment is very similar to that in case of the ear, except that the object may sometimes be dislodged by inducing sneezing, or by making the child blow the nose vigorously. In all cases of offensive nasal catarrh, the nose should be examined to see if there may not be some foreign substance there which has caused inflammation. Children often put small objects up their nostrils and forget all about it.

Is it dangerous if children swallow small objects, such as coins, buttons, marbles, and the like?

Usually there is no great danger from so doing. The object is quickly coated with mucus from the stomach, and passes down the intestines without producing any trouble. Some laxative, like castor oil, may be given if desired, but usually none is necessary.

If the foreign body is angular or pointed, such as a fish-bone or a pin, it is liable to stick in some part of the throat and cause choking. In such case hold the child up by its legs, and slap its back while thus suspended. If high up in the throat, where it can be seen, cautious attempts should be made to grasp it with the thumb and finger. If it has lodged lower down, let the child swallow large mouthfuls of food, which will soon carry the body downward with them.

What is the best application to make to a burn or a scald?

There is nothing better than vaseline. Apply it freely, and then wrap up the part so as to exclude the

air. If the burn or scald is extensive, there is danger from "shock." In such case, summon a physician as quickly as possible, and follow his directions. If the burn affects the skin between the fingers, there is danger of the fingers growing together, causing a "webbed hand," unless care is taken to separate the fingers by lint or something similar, well smeared with vaseline or carron oil.

What is to be done in case of a serious fall in which the head is struck?

Bathe the head with arnica tincture and give a drop or two, diluted with water, internally, at intervals of half an hour or oftener. If there is reason to fear serious injury to the brain from the nature of the fall, put the child to bed. Keep the head cool, and favor sleep by excluding visitors and avoiding noise. Children sometimes suffer considerable fractures of the skull without serious consequences, and again an apparently trifling fall may produce convulsions, or give rise to epileptic attacks which sometimes continue through life. A child who has met with a serious fall should be watched carefully for some weeks, for the consequences of head injuries do not always show themselves immediately.

CHAPTER IX.

THE NURSERY IN SICKNESS.

What changes are necessary, in case of sickness of possibly contagious character, to transform the nursery into a temporary hospital?

If the nursery consists of two rooms — a day and a night nursery — as heretofore described, the changes

necessary to avoid the spread of contagion are few and simple. The day nursery is best for use in case of sickness, as it is best lighted and is most easily isolated. It has also the advantage of having the nurse's sleeping room next to it. This is especially advantageous in case the child should be so seriously ill as to require two nurses (one for day and one for night).

The walls should be stripped of everything that can be dispensed with. All pictures, except such cheap prints as can be easily replaced, and costly toys should be removed. The curtain hangings, rugs, and all superfluous furnishings should be taken away; the mattress and bed linen should be considered with reference to their destruction after the case is well. The crockery should be duplicated, so that changes may be made quickly if necessary. Plenty of absorbent cotton, old linen, and disinfectants should be provided.

After the nursery is thus denuded of all unnecessary furniture it should be made as clean as possible, using soap, water, and brush everywhere. After taking these precautions, let the room be well dried and aired. If there be more than one child under consideration, and the disease is contagious, absolute isolation of the sick child will alone afford adequate protection to others. To effect this, the crevices about the doors, and other openings between the two nurseries, must be closed and made air-tight. Strips of paper may be pasted over the keyhole and along the door spaces, care being taken to lock the door and remove the key before proceeding with these measures. The door leading from one room to another can be made contagion-proof by tacking a piece of lint onto the edges of the door, covering top, sides, and bottom with the lint. This will insure complete closure of the door, and effectually prevent any dissemination of contagious elements.

All linen used about the sick child should be either burned or specially laundried. Instead of handkerchiefs, soft pieces of linen should be used and destroyed thereafter.

As all acute diseases are attended with fever and consequent thirst, the Acme water cooler (see Fig. 7, page 51) will prove a great convenience.

After the illness is over and the child is well enough to change rooms without danger, the sick-room — the temporary hospital — should first be fumigated with sulphur candles, and afterward thoroughly cleaned with soap and water. If the room has been previously papered it should be repapered; if calcimined, it should be recalcimined; but if the walls are painted, it will be sufficient to have them well washed down with soap and water, or with water containing some antiseptic, like listerine, carbolic acid, or sanitas. After these precautions, let the room be thoroughly aired and dried, after which it may be considered free from contagious germs.

But suppose one is limited to apartments, and can devote but a single room to the nursery in health and in sickness, what is to be done?

Enough has been said to indicate the necessities and outline the procedures which are requisite to transform the baby's room into a quasi hospital. Remove all unnecessary appendages — curtains, draperies, rugs, furniture, etc. Make the room as sweet and clean as soap and water will make it. Select the brightest and airiest room available for the sick-room. This may possibly mean the parlor. If so, let the parlor carpet be taken up, and all bric-a-brac removed. Whether the sick-room be in a flat, a cottage, or a mansion, certain things are necessary to be considered in selecting the sick baby's chamber;

First. The room must be capable of free ventilation without disturbing the patient.

Second. It must be warm, and it should be possible to regulate the temperature without producing draughts.

Third. It should be as noiseless as possible, *i. e.*, away from street noises, and as free as possible from household disturbances.

Fourth. It should be near the bath-room and water-closet, where hot and cold water can be easily obtained.

Fifth. It should be a large room, larger than needed in health, because sickness requires the constant presence of at least a second, and often a third, person, all of whom consume oxygen and would soon vitiate the air of a small room.

Are disinfectants and antiseptics the same thing?

Not exactly. Antiseptics are drugs or chemicals which arrest putrefaction, while disinfectants are substances which destroy the power of infective materials. Some drugs, like carbolic acid, are both disinfectants and antiseptics.

Do you approve of their use?

Certainly I do; but, at the same time, scrupulous cleanliness should be observed in everything pertaining to the sick-room. Dirty dishes, vessels with discharges, soiled napkins, etc., should be removed at once. Articles used about the patient, such as sheets, pillow cases, blankets, and wearing apparel should not be removed from the sick-room until they have been soaked for at least an hour in some disinfecting fluid. The following is a very good formula to use for this purpose: Sulphate of zinc, eight ounces; carbolic acid, one ounce; water, three gallons.

After the soiled articles have been allowed to soak in this mixture for an hour or so, they may be placed in

boiling water for washing. The pillows and mattresses may be left in the room while the latter is being fumigated at the termination of the sickness. Water closets or privy vaults into which the discharges are poured should be disinfected each day with a solution of copperas, in the proportion of half a pound to the gallon of water.

How is fumigation to be effected?

The room is to be made as tight as possible by stopping up all of the apertures, such as keyholes and the spaces under the doors, about the window sashes, etc. This can be done with cotton or rags, or by pasting brown paper over and around the openings. After this is done, place a quantity of roll sulphur, broken into small fragments, in a saucer or earthen dish, which should stand either in a large iron kettle, or, supported on two bricks, set in a bucket or tub partially filled with water. When all is ready, sprinkle a little alcohol over the sulphur and apply a match. As soon as combustion begins, leave the room, closing the door tightly afterward.

How much sulphur is required in a room twelve feet square?

Such a room will contain something over a thousand cubic feet, and you should burn at least three pounds of sulphur. The room should remain closed for at least twelve hours, and then be thoroughly aired.

Are there not sulphur candles made specially for purposes of fumigation?

Yes; they are kept by most druggists, and are more convenient than the roll sulphur just mentioned.

How should the walls be treated?

If the walls are painted, they should, as well as the

woodwork, be wiped down with a solution of chloride of lime (one ounce to the pint) or carbolic acid (one drachm to the pint). Afterward they should be scrubbed with soap and hot water.

How about walls that have been papered?

They should be repapered, and the woodwork should be repainted.

How should the person of the nurse be disinfected?

By washing with a 2 per cent solution of carbolic acid, or by the free use of listerine.

What are the first symptoms of scarlet fever?

Scarlet fever, or scarlatina, as it is technically called, comes on suddenly and without warning. More often than otherwise the child is apparently in perfect health the day before the attack, and sleeps well after its usual supper. On rising the next morning it is seized with vertigo and vomiting, and complains of a sore throat. Very soon, that is, within an hour or two, a high fever sets in, and in many cases the vomiting persists at intervals. Within from twelve to twenty-four hours, and often sooner, the face becomes unusually flushed, the sore throat becomes more pronounced, and the redness of the skin extends over the neck, chest, and body. The back is very red, and, after a few more hours, the redness extends over the legs until the whole body resembles a "boiled lobster." (See Fig. 11.) When the eruption is at its height, which is usually on the second day, if the finger is drawn over the back a white line is left, which is quickly replaced, when the finger is removed, by the fiery redness of the adjacent skin.

The rash consists of very minute red points, which are not at all elevated, but are so thickly crowded together that the skin appears a uniform bright red.

No. 11. SCARLET FEVER.
(See Page 312.)

Very often there is no vomiting at the commencement of the attack, and the sore throat, which is always present, is so slight as to attract but little, if any, attention. In such cases the eruption is widespread when the child is first examined. In well-marked cases the color of the rash increases in intensity for two or three days, and lasts altogether about a week. On the second day of the attack the tongue becomes heavily coated with a thick, pasty coating, which melts away in a day or two, leaving the tongue bright red and thickly studded with red and swollen "papillæ," constituting the "strawberry tongue" so characteristic of this disease. This appearance of the tongue is well shown in our illustration.

While the eruption lasts the fever continues high and the throat remains sore, swollen, and bright red. The tonsils are liable to be covered with white patches resembling diphtheritic membrane. After a period of from seven to nine days the rash is entirely gone, and with it the fever, but in bad cases, with severe throat symptoms, the fever may last longer. On the other hand, in very mild cases, the sore throat, the fever, and the rash may not last above twenty-four hours. It is a most treacherous as well as variable disease, being so mild sometimes as to be overlooked, and again so malignant as to destroy life in a few hours.

What is the difference between scarlet fever, scarlatina, and scarlet rash?

There is no difference at all. They are one and the same thing.

Is the danger of contagion as great in mild cases as in severe ones?

It is just as great. The very mildest case is capable of communicating the severest form to other children.

How long after the commencement of an attack is it safe to permit a child to mingle with other children?

Rigid isolation should be maintained for at least six weeks, and longer if the skin is still desquamating (peeling).

How is the disease communicated?

The contagious principle is disseminated by the breath and by the skin, and can be carried in the clothing from the sick to the well. The vitality of this poison is very great, and may infect a room or clothing for a year, or indeed for several years.

What is the special danger in scarlet fever?

In malignant and dangerous cases, the throat symptoms are usually severe from the beginning of the disease. In other cases the fever runs dangerously high, 104° or 105°, and is accompanied by delirium or convulsions. Even mild cases, or those which are mild at first, are liable to take on serious symptoms, unless great care is taken in the management of the case. After the first week the greatest danger is from dropsy, due to involvement of the kidneys. This latter affection is a form of Bright's disease, and it is liable to come on even after the child has been convalescent from the fever for several weeks.

Is there any means of prevention in scarlet fever?

There is but one means of prevention, and that is to avoid exposure. If the disease is prevailing in the neighborhood, it will be quite proper to give a child three or four doses of belladonna daily. This drug is not to be depended upon as a prophylactic, but I am sure that it has the power to render the disease more mild and less dangerous. The belladonna should be given for several weeks, or until all danger is over.

What is the proper treatment of scarlet fever?

In a disease so variable as this, and which is always attended with so much danger, it would be very unwise for any mother to attempt to treat it alone. Indeed, the same thing holds true of all the eruptive fevers of infancy. It is not possible or proper to lay out a course of treatment for the entire course of the disease. All that is here possible is to indicate the first remedies to be given, and leave the further conduct of the case to the physician who will be called.

If there is high fever, vomiting, and sore throat, the first remedies to be given are aconite and belladonna. These should be alternated every half-hour until the doctor arrives. If the disease should be inaugurated with convulsions, place the child as quickly as possible in a hot bath, and give the remedies just mentioned every fifteen minutes. (See page 289, Convulsions.) Should dropsical symptoms show themselves by puffiness of the eyelids, or bloating of the face or extremities, give arsenicum hourly.

The hygienic treatment of scarlet fever consists in the avoidance of cold draughts all through the disease, and in the maintenance of a uniform temperature of the sick-room. The child should be confined to bed with light covering, and no bathing or sponging of the body should be done without the sanction of a physician. Sometimes, after the eruption is well out, the itching of the skin is more or less troublesome. In such cases anoint the body all over once a day, or oftener, with olive oil or cocoa butter. This expedient is useful all through the disease, regardless of the itching, because it is something of a safeguard against taking cold, and it is especially useful in preventing the poisonous emanations from the skin from floating about the room.

Instead of olive oil, a very nice ointment for use in the eruptive fevers is made as follows:

℞ Cocoa butter..... 2 ounces.
Almond oil.....10 drops.

Rub well together in a mortar, and apply as needed. This application is largely used in this city, and is put up by many druggists and sold under the name of "Unguentum Græcorum."

In prohibiting bathing during the course of the disease, it is not to be understood as applying to the first hot bath at the commencement of the disease. This is useful in all eruptive diseases. Further bathing, however, had best be left to your medical adviser, who can best judge of its expediency and of the proper kind of bath to be given.

The diet should be of the blandest character. Never urge a child to eat when suffering from an acute illness. Even breast nursing should not be insisted upon. After the first shock of the disease is over, the appetite, if lost, will return without urging.

MEASLES. (SEE FIG. 12.)

What are the first symptoms of measles?

They are so like those of a cold in the head that an experienced physician can not tell the difference. The nose runs, the eyes weep, and there is sneezing and usually some cough. There is no eruption until the fourth day. Prior to this the child seems ordinarily well, except for the cold. There is sometimes a slight fever, but not always.

How does measles differ from scarlet fever?

There is usually no sore throat with measles; and there is no catarrh with scarlet fever. The child is sleepy and dull, slightly feverish, but usually not ill

No. 12. MEASLES.
(See Page 316.)

enough to go to bed. As the disease advances, however, the fever increases, and by the fourth day it may carry the temperature to 102 or 103° F. At this time the characteristic rash appears, and differs from that of scarlet fever in being coarser, more scattered, and purplish in hue rather than scarlet. The eruption consists of flattened papules, slightly elevated above the surrounding skin, and about the size of a split pea. There is a tendency for the rash spots to run together, so as to form a crescent-shaped blotch. The eruption appears first upon the face, but spreads over the entire body in about twenty-four hours. The cough, which was among the earliest symptoms to appear, continues during the eruption, and it is the last symptom to disappear. The rash remains visible about four days, and fades away in the same order in which it came. For a week or more after its subsidence, there is a faint mottling of the skin, which is more apparent if the child is near a hot fire or becomes heated in play.

How long does the disease last?

From the first symptoms of cold to entire subsidence of rash, from ten to twelve days, but the danger from exposure to cold lasts fully a month.

What are the principal dangers from measles?

Pneumonia, bronchitis, and sore eyes.

Does the skin peel off in this disease the same as in scarlet fever?

No. There may be some little desquamation of the cuticle, but the extensive peeling of scarlatina is seldom seen.

Is measles contagious?

It is the most contagious disease known, smallpox not excepted. It is not infectious, however, to the

same extent that scarlatina is. It is spread abroad mostly by the breath or by the nasal discharge, and not by the clothing of a third person, as a rule.

Do children have these diseases more than once?

Very rarely, indeed. Once in a while both scarlet fever and measles are repeated in the same individual, but this is to be regarded as a very rare exception. In cases where persons are accredited with having measles twice or thrice, it is more than likely that one time the disease was not measles, but rötheln, or German measles.

What is the treatment for measles?

As soon as the disease is recognized the child should be given a hot bath and put to bed. The same precautions against taking cold should be observed as in the preceding disease. If the skin itches, the sweet-oil bath may be given at bedtime.

Internally, the leading remedies are pulsatilla, which is usually sufficient to control the cough; aconite if there is much fever; belladonna if the child complains of headache or avoids the light. The light in the sick-room should be dimmed, and if the eyes are much inflamed they may be bathed with a weak solution of boracic acid or powdered borax. The further conduct of the case had best be left to the family physician.

How does "German measles" differ from the other variety?

Rötheln, or German measles — sometimes called French measles — is of milder type. The eruption is more scattered, and is lighter in color. There is not so much catarrh — often none at all. The fever is not so high, and the child is not so ill. There is, however, a greater tendency to involve the glands of the neck

No. 13. GERMAN MEASLES (RÖTHELN).
(See Page 318.)

than in true measles. It does not often attack a child under one year old. (See Fig. 13.)

The disease is very variable, and sometimes resembles scarlet fever more than true measles. There is, however, no sore throat, and but little fever. It is quite contagious, and, like true measles, is very apt to appear in epidemic form. There is seldom much cough, although epidemics differ in this particular.

Will you please give me the treatment?

But little treatment is necessary, except to keep the child reasonably warm. If there is doubt as to the diagnosis, the physician should be sent for, and his advice adhered to.

ROSEOLA.

What sort of disease is roseola?

"Roseola" is a very vague term which is used quite variously by different authors and physicians, but is usually, and should always be, understood to refer to a transient and trifling eruption lasting from twelve to thirty-six hours, and generally accompanying some disturbance of the stomach.

What are its symptoms?

It comes on suddenly, like scarlet fever—sometimes with vomiting, but not always; the eruption is quite like that of scarlatina, but differs in this essential particular, that it is not uniformly distributed over the body. It often gives to the face a deep scarlet flush, but the flush does not extend over the neck, chest, body, and limbs in regular succession, but shows itself here and there in patches of various sizes. In some cases it appears first on the limbs or body, and may not affect the face and head at all. I have occasionally seen cases in which sore throat was present, but this is extremely rare. The fever is usually slight, but may be for a few

hours quite high. There is also, as a rule, a coating on the tongue.

If roseola and scarlet fever are so nearly alike, I do not see how one can tell the difference?

I have been puzzled myself in several instances, but a few hours have sufficed to make out a clear diagnosis. Roseola rarely lasts more than from twelve to twenty-four hours; when the eruption disappears the fever subsides and the child feels quite well again, save, possibly, a coated tongue and a temporary loss of appetite.

What is the cause of this disease?

It may come from indigestion or nervousness. Some children are very subject to it, and especially after eating certain articles of food, such as lobsters, or any shell fish. It is more a child's than an infant's disease. It is described by some authors under the head of "*ephemeral fever*." It is not contagious. It never affects infants at the breast.

What is the treatment?

If the bowels are not freely open give an enema, or use a glycerine suppository in the rectum. Stop all feeding for a time and give the stomach a needed rest.

Internally give aconite every half-hour while the fever lasts. If the head aches, and especially if the throat is sore, alternate the aconite with belladonna. After the fever has subsided, if the tongue is still coated and there is a loss of appetite, give nux vomica for a day or two at intervals of one or two hours.

CHICKEN POX (VARICELLA).

What are the symptoms of chicken pox?

This is another of the so-called eruptive fevers of infancy, but it rarely attacks those under six months

of age. It is contagious, and rarely affects the same person twice. It closely resembles the mildest cases of varioloid, although the two diseases are quite distinct, and have nothing in common except a close resemblance. The disease is always mild, and prodromal symptoms are absent. The discovery of the characteristic eruption is usually the first symptom noticeable. Sometimes there is a slight fever just before and during the presence of the eruption, which is quite like that known as "red gum" or strophulus. It consists at first of rose-colored spots appearing first on the neck and trunk, and which change in a few hours into vesicles (that is, pimples with a white top). These vesicles number from a dozen or so to some hundreds, and are from an eighth to a quarter of an inch in diameter. They are filled with a clear, watery fluid, and are sometimes painful and surrounded by a bright red halo. The pimples come out in crops, rapidly change into vesicles, the older ones quickly drying up and forming scabs. The attack lasts a week or more. The eruption is quite prone to invade the scalp.

What is requisite in the way of treatment?

The child should be confined to the house, and kept away from other children; but as the disease is not infectious, there is no need of that rigid isolation which is necessary in scarlet fever and measles. The contagion is communicated by the breath and perhaps by the scabs, but it does not cling to the walls or clothing. The child must not be allowed to pick at or scratch the scabs, as this is liable to leave scars. If the vesicles are large and numerous a physician should be consulted, who may deem it necessary to use measures to prevent scarring. No internal remedies are necessary. The disease is self-limited, and can not be controlled by drugs.

VACCINIA — VACCINATION.

At what age should a child be vaccinated?

Usually when three or four months of age. There are several reasons why it should be done before the infant is much older than this. The principal reason is that the sooner it is protected from the terrible disease, smallpox, the better, for there is no telling when exposure may take place. Another reason for early vaccination is that there is always some malaise, some disturbance of constitution accompanying the vaccination, and after a child has reached the age of six months teething begins, and continues to be a source of disturbance, more or less, all during infancy. Hence it is best to have the vaccination over before teething begins. There is still another reason why it is best to have the vaccination over early, and that is, a young infant in arms is more easily cared for, and less likely to scratch the sore and tear it open than when older.

Then you believe in vaccination, do you?

Most emphatically. I do not see how anyone who is possessed with all of his faculties can fail to note how seldom a death occurs from smallpox now as compared with the days before vaccination was employed as a preventative. There was a time when smallpox carried off more people of all ages than all other diseases combined, and now it is comparatively unheard of. If vaccination were not practiced, however, it would soon, in all probability, be as prevalent and as fatal as it was formerly. No fact in medicine has been more clearly demonstrated than the protective power of vaccination.

Is there not danger of contracting other diseases, through vaccination, quite as much to be dreaded as smallpox itself?

The supposed dangers of transmitting other diseases by vaccination are wholly imaginary. If there ever was any such danger it has entirely disappeared under improved methods of propagating and using the virus. The danger of erysipelas or of blood poisoning setting in is not a whit greater from vaccination than from a scratch or sore originating in some other way.

What is the best place for the vaccination, on the arm or on the leg?

I much prefer the calf of the leg, as it is most easily cared for there, and sometimes it needs a good deal of care for several weeks. Girl babies should certainly never be vaccinated on any part of the arm where the scar will be a blemish in after years. The thigh or the leg is a much more desirable place.

How long after vaccination before it begins to "take"?

Nothing is seen until the second or third day, when a red pimple (papule) appears on the site where the virus was used, which grows larger, until the fifth or sixth day, when it becomes a vesicle filled with watery fluid. This vesicle increases in size until the eighth day, when it is nearly as large as a ten-cent piece. By the tenth day the watery fluid has changed into matter and the vesicle has become a pustule, with its contents yellowish and cloudy, and with a broad red ring around it, from two to three inches in diameter. By the eleventh or twelfth day the inflammatory redness diminishes and the fluid begins to dry. In two or three more days the scab is well formed, and by the end of three weeks or thereabouts this falls off and leaves a mottled white scar.

Is there much fever attending vaccination?

There is usually some fever, beginning on the third or fourth day, and lasting until the eighth or tenth day.

How should the vaccination be guarded?

The vaccinated limb should not be bathed until the sore is well healed. After the vesicle begins to form it should be protected from injury by a vaccination shield, or by a pad of borated or salicylated cotton fastened on loosely with a roller bandage or adhesive plaster. If there is an undue amount of inflammation in the surrounding tissues, it may be treated like any other inflammation, viz., by soothing applications like witch hazel, soda, or boric acid solutions. If the child is much feverish an occasional dose of aconite or belladonna may be given, but ordinarily it is best to let the whole disease run its typical course without interference.

How long does vaccination, provided it takes, afford immunity from smallpox?

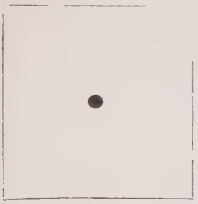
Most children who have been successfully vaccinated are permanently protected for the balance of their lives, but in some cases this protection ceases, in a measure, after a number of years. If smallpox is prevailing in the neighborhood, everyone in the household should be revaccinated if it has not been successfully done within a very few years. If the vaccination is made with fresh virus, and it is unsuccessful, the probability is that complete immunity exists. In the case of infants, if the first vaccination is not successful, it should be repeated at intervals until success is achieved.

Is there any way by which vaccination can be rendered painless?

Yes, there is a method by which all pain can be obviated, and by which an infant can be vaccinated, if desired, while asleep. This painless method consists of raising a very small blister on the selected site, and applying the virus on the raw surface after the blister has been punctured and the water let out.

How is this accomplished?

Ask your druggist to place a small dot of *cantharides ointment* on a piece of rubber adhesive plaster an inch square. Apply to the leg or arm when the child retires for the night. In the morning, having secured a fresh vaccine "point," prick the cuticle which covers the blistered surface and lay this surface open. Now mop up the serum or blister water with a bit of absorbent cotton. You have now a tiny raw surface upon which you rub the vaccine point after having dipped it in clear water, and the vaccination is effected. It is better not to cover the surface over immediately with plaster or otherwise, because the covering is apt to absorb the virus before the skin has opportunity to do so. Leave the surface exposed for some little time —a half-hour or so—until quite dry, after which you may cover it up with a piece of adhesive plaster or a bandage, or, better still, a vaccination shield, which you can obtain from any druggist. Care should be taken to secure fresh cantharides ointment, and only a mere *dot* of it should be used. The speck of ointment should never be larger than the head of a pin.



PLASTER FOR PAINLESS VACCINATION, SHOWING DOT OF CANTHARIDES IN CENTER.

MISCELLANEOUS.

Is a cap worn on the baby's head at night necessary to keep the ears from standing out?

It is very doubtful if any alteration in the shape of the ears can be accomplished in this way. If the ears stand out prominently enough to be a defect, a slight surgical operation will easily remedy the deformity.

BED-WETTING (INCONTINENCE OF URINE).

Is there any way to break a child from wetting the bed while asleep?

The habit of wetting the bed at night, which is a very common infirmity, should be regarded as a disease and treated accordingly; not by scoldings or punishments, but by regulating the child's habits and by proper medicines internally administered.

In a normal state of the bladder, when the child feels the desire to void the urine, the sensation is sufficient to awaken him even from sound sleep. But if the bladder is irritable, or if the neck of the bladder is relaxed, the act is involuntary. Such children, and indeed all children, should be taught to use the chair just before retiring, and should be taken up again when the family retires for the night.

The child should eat an early and light supper and not allowed much fluid thereafter. The mattress should be protected with a rubber sheet, and the infant's wet night-clothes changed for dry ones as soon as possible. A child with this infirmity should be made to lie on the side rather than on the back, and should not be too warmly covered. In some exceptional cases this bad habit may be corrected by "moral suasion" or by mild punishment, but as a rule extreme measures will be of no avail. Among the remedies best calculated to correct the trouble are nux vomica, belladonna, and *equisetum hyemale*.

If these measures fail, a physician should be consulted.

"CHILD-CROWING."

I have heard of young children, infants indeed, having a disease called "child-crowing." Will you please describe it, and tell me what to do for it?

What you refer to is a respiratory spasm, and is known by various names, laryngismus stridulus, spasm of the glottis, inward spasm, etc. It is a very frequent accompaniment of rickets.

It is a local spasm, and is usually confined to the glottis — the opening in the windpipe — but in some cases all of the respiratory muscles may participate. In mild cases there is a slight stridulous or crowing sound made during inspiration, caused by the air passing through the contracted glottis.

In severe cases the child becomes pale or even blue before the spasm yields. The paroxysms may occur at any time without warning, sleeping or waking, when feeding or when laughing or crying.

They are more common, however, at night. The spasm may last but a few seconds or continue for a minute or two. During its continuance the infant seems to be in great peril, which in reality it is, for sometimes such a convulsion results fatally. It is always a reflex phenomenon, and is more often than otherwise caused from teething. Any irritation of the nervous system may give rise to it. As the child may seem perfectly well in the intervals and breathe perfectly naturally, the great danger lies in the suddenness of the spasm and failure to apply at once the proper means for relief. These measures have already been described under the head of "Convulsions," but as this affection differs from ordinary spasms in many of its symptoms, so the treatment is necessarily somewhat modified. The hot bath previously recommended is of value here, but valuable time can not be wasted in getting a bath in readiness. While waiting for it, dash cold water into the child's face, and sharply slap the back and buttocks. Apply ammonia to the nostrils, or, still better, give a few whiffs of chloroform.

In some paroxysms put your finger down the child's throat and *pull the tongue forward.* This latter expedient is of the greatest moment. Pulling the tongue forward lifts up the epiglottis (valve covering the glottis), and thus admits some air into the lungs. During the spasm the epiglottis is quite apt to drop down over the aperture of the glottis and shut off the entrance of air entirely. A child who has once experienced a spasm of this character should be watched with great care until the producing cause is removed and the danger permanently overcome.

The remedies most likely to prevent a recurrence of the spasms are gelsemium, belladonna, and hyoscyamus.

PROTRUSION OF THE LOWER BOWEL (PROLAPSUS ANI).

What causes a baby's bowel to protrude, and what can be done for it?

Constipation and consequent straining at stool are the prime causes; but I have known whooping cough to be so severe that the prolonged paroxysm of coughing forced the mucous lining of the bowel down and caused prolapsus. Whatever the cause the parts should be well greased with vaseline or sweet oil, and gentle pressure made upon the protruded parts with the thumb and fingers until the parts go back in place. A pad of absorbent cotton or linen cloth should be worn and pressed against the anus with the hand during severe spells of coughing. If constipation is the cause it should be remedied first of all by diet, and possibly sweet oil enemata. If any difficulty is experienced in effecting a reduction of the protrusion, apply cloths wet in cold water, or even a piece of ice, for a few minutes before attempting reduction.

APPENDIX.

POISONS AND THEIR ANTIDOTES.

It is very uncommon for an infant or child, when its parents are provided with homeopathic medicines *solely*, to be poisoned. To those who comprehend the true spirit and theory of homeopathic medication, it will not seem at all strange that the medicines we administer are powerful for good, and yet may be taken — most of them at least — in considerable doses without serious harm. Sick tissues are very much more easily affected by drugs than sound ones. This is illustrated every day by facts which show how susceptibilities change by trifling causes which produce inflammation in organs and parts. Healthy eyes are affected pleasantly by light, but if the eye is inflamed, the smallest ray of light is exquisitely painful. The healthy ear can bear the sound of a cannon, but if the ear is inflamed, the slightest noise causes pain. The bladder in health tolerates urine which is salty and often acrid, but if its mucous lining is inflamed, every drop of urine is voided immediately and with straining and pain.

These illustrations show that a small quantity of even a poisonous drug may be taken with scarcely perceptible effect, if the system is in a healthy condition, but may prove harmful or curative if the system is rendered by disease in a hypersensitive condition.

Besides there is what may be called a special affinity between certain drugs and certain tissues. This is going rather deeper into drug action than is necessary in a work like this, but I wish to make you understand how a simple drop of homeopathic medicine may make a profound and curative effect on a diseased tissue, and yet may not poison a child in ordinary health.

It is very unwise, however, to leave vials of homeopathic medicines where young children can get at them, and it is equally unwise to trust their administration to an ignorant or careless nurse. While our remedies are not ordinarily harmful, if taken more freely or liberally than necessary, they should always be given with regularity and system if good results are expected.

It sometimes happens, however, in the best regulated families, that anodynes, narcotics, and other poisons are left carelessly about, and hence are liable to be taken by toddling infants. We append, therefore, a table of antidotes for use in such emergencies. This table does not apply if the poisons enumerated are taken in homeopathic doses, and out of a regularly filled homeopathic case. They refer to the crude drug or poison in all cases, and in presumably or possibly dangerous quantities.

TABLE OF POISONS AND THEIR ANTIDOTES.

POISON.	ANTIDOTES.
Acid — acetic, sulphuric, nitric, or hydrochloric	Some alkali, such as magnesia, chalk, soda, or soap, followed by sweet oil.
Acid—carbolic	Spirits ammonia; vinegar; epsom salts, and the fixed oils.
Acid — oxalic and salts of lemon	Emetic, followed by lime or magnesia; then soothing drinks.
Aconite—tincture	Emetic, stimulants externally and internally.
Alcohol — whisky, brandy, etc.	Emetic; cold water to head; warmth to extremities; artificial respiration.
Alkalies — ammonia, hartshorn, lye, caustic potash	Vinegar or lemon juice, followed by sweet oil and soothing drinks.
Antimony—tartar emetic	Strong tea, milk, or other soothing drinks; castor oil to empty bowels.
Arsenic — Fowler's solution, paris green	Emetic; white of egg; sweet oil; soothing drinks.

POISON.	ANTIDOTES.
Belladonna — atropine	Emetic, strong tea or coffee stimulants.
Carbolic acid	See acids.
Chloral hydrate	Same as for opium poisoning.
Chloroform	Cold douche; friction of skin; inverting child; artificial respiration.
Corrosive sublimate — bug poison	Emetic, followed by white of egg or milk; soothing drinks.
Gas—illuminating, fuel, and coal gas	Fresh air; artificial respiration; inhalations of ammonia; cold douche.
Iodine	Starch or white flour mixed with water and given freely; follow with emetic.
Laudanum	See opium.
Lead—sugar of lead	Emetic, followed by epsom salts, white of egg, or milk; alkaline waters, such as Hunyadi.
Matches	See phosphorus.
Morphine	Same as opium.
Nux vomica	See strychnine.
Opium — paregoric, laudanum, soothing syrups, etc.	Permanganate of potash in doses of three to five grains; strong coffee; move child about and prevent sleep; apply cold water to head and spine; in extreme cases use artificial respiration.
Paris green	Same as arsenic.
Phosphorus — match heads, some roach and rat poisons	Sulphate of copper in solution, one to three grains every few minutes until vomiting begins; then epsom salts or seidlitz powder to move bowels; no oil of any kind.
Poisonous plants — jimson weed, toadstools, tobacco, deadly nightshade, etc.	Emetic; strong coffee, whisky, or brandy; ammonia inhalations; artificial respiration.
Strychnia—nux vomica	Bromide of potash freely; hydrate of chloral; tincture of aconite; vinegar.
Tainted food	Empty stomach by emetic or finger in throat; afterward, if food has been long retained, castor oil as purgative.

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